

QR. MR. GENERAL'S OFFICE.  
Rec'd. 18  
Section 5 of

# THE IRON AGE

A Review of the Hardware, Iron and Metal Trades.

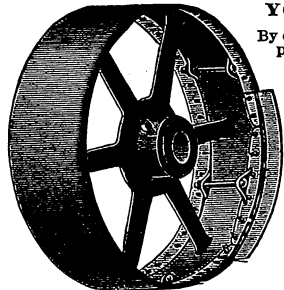
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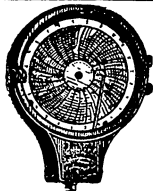
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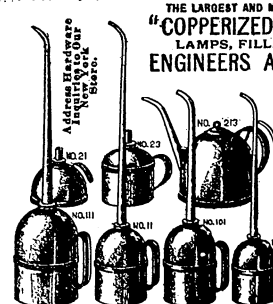


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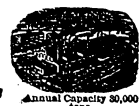


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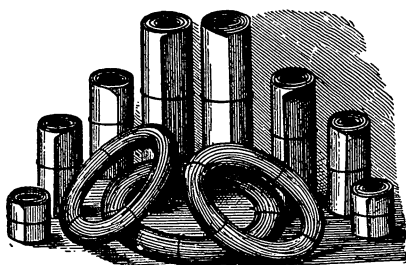
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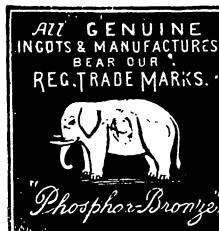
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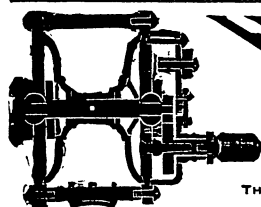
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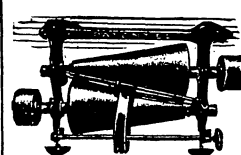
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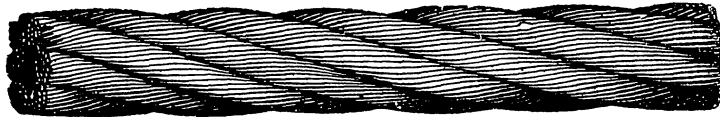
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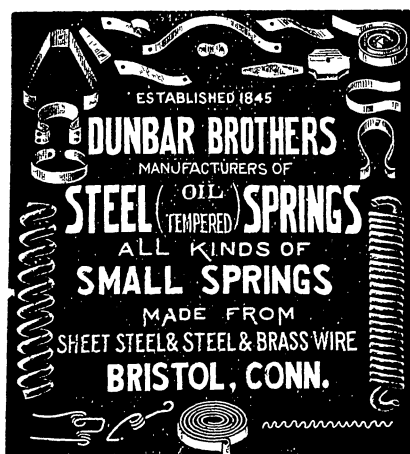
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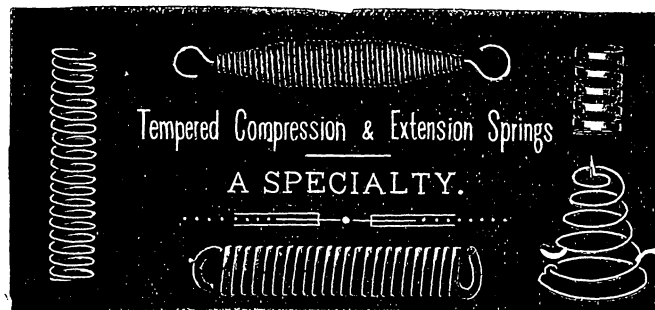
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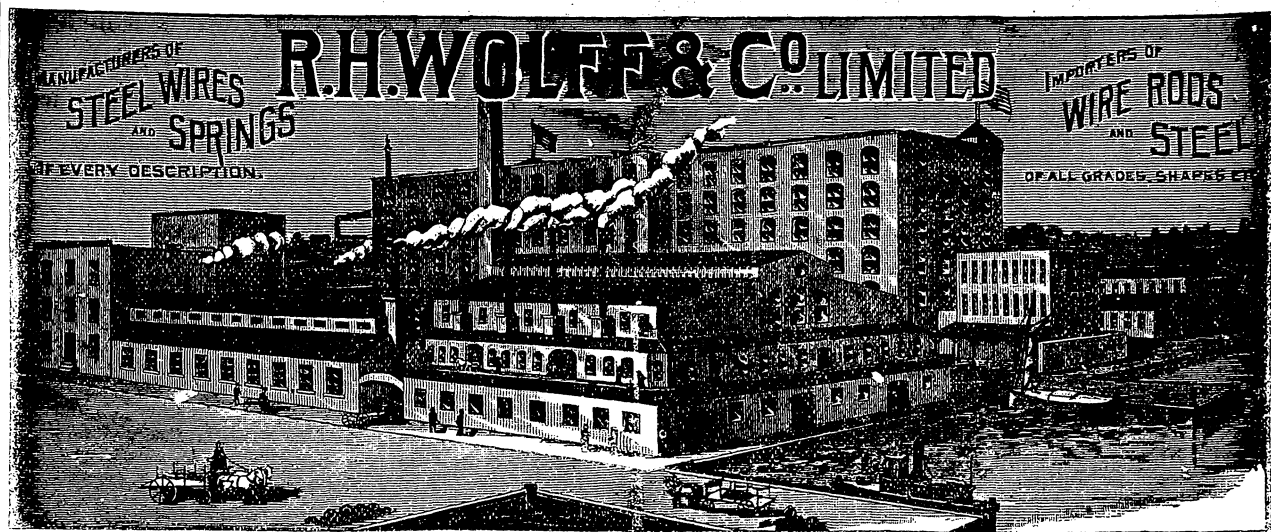
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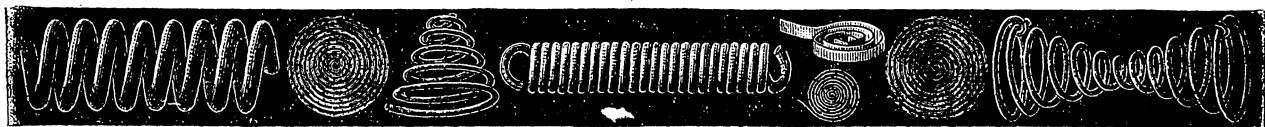
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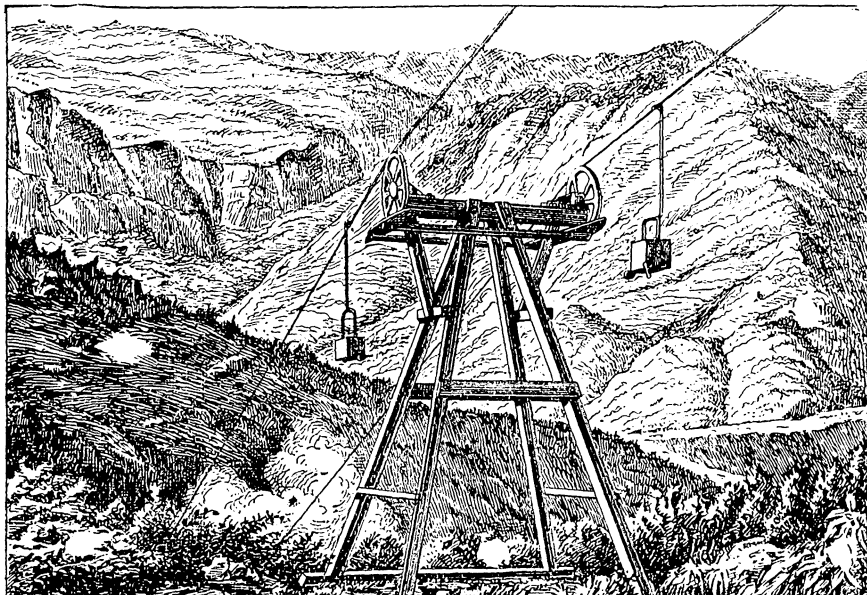
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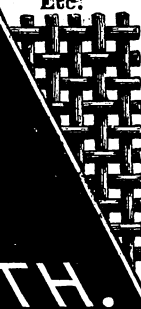
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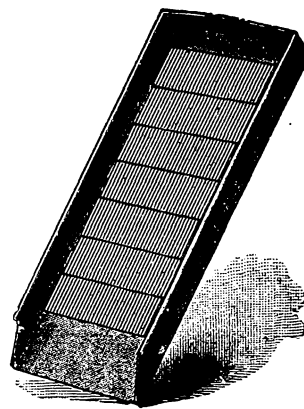
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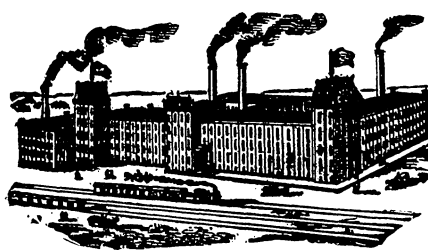
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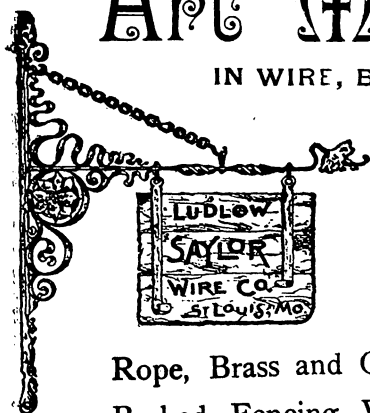
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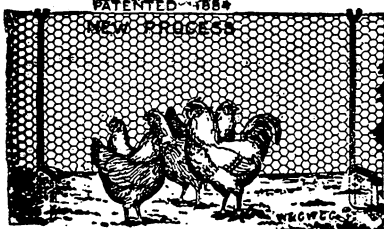
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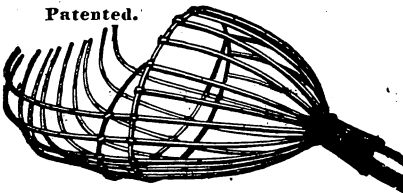
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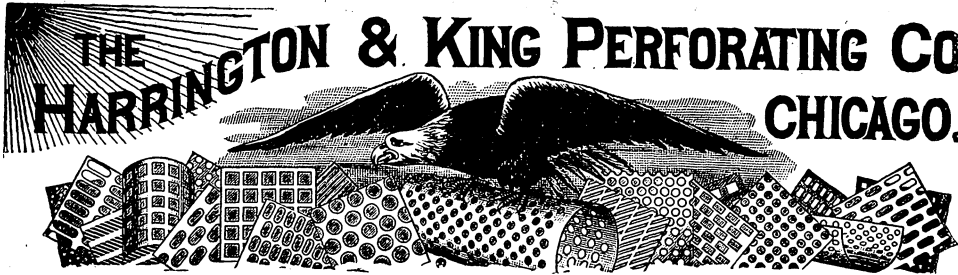
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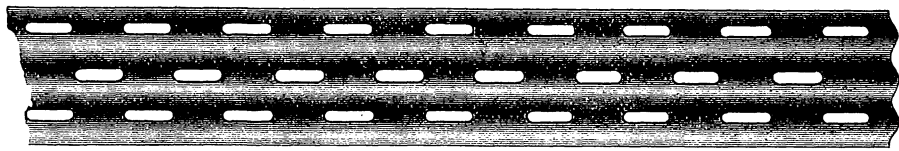
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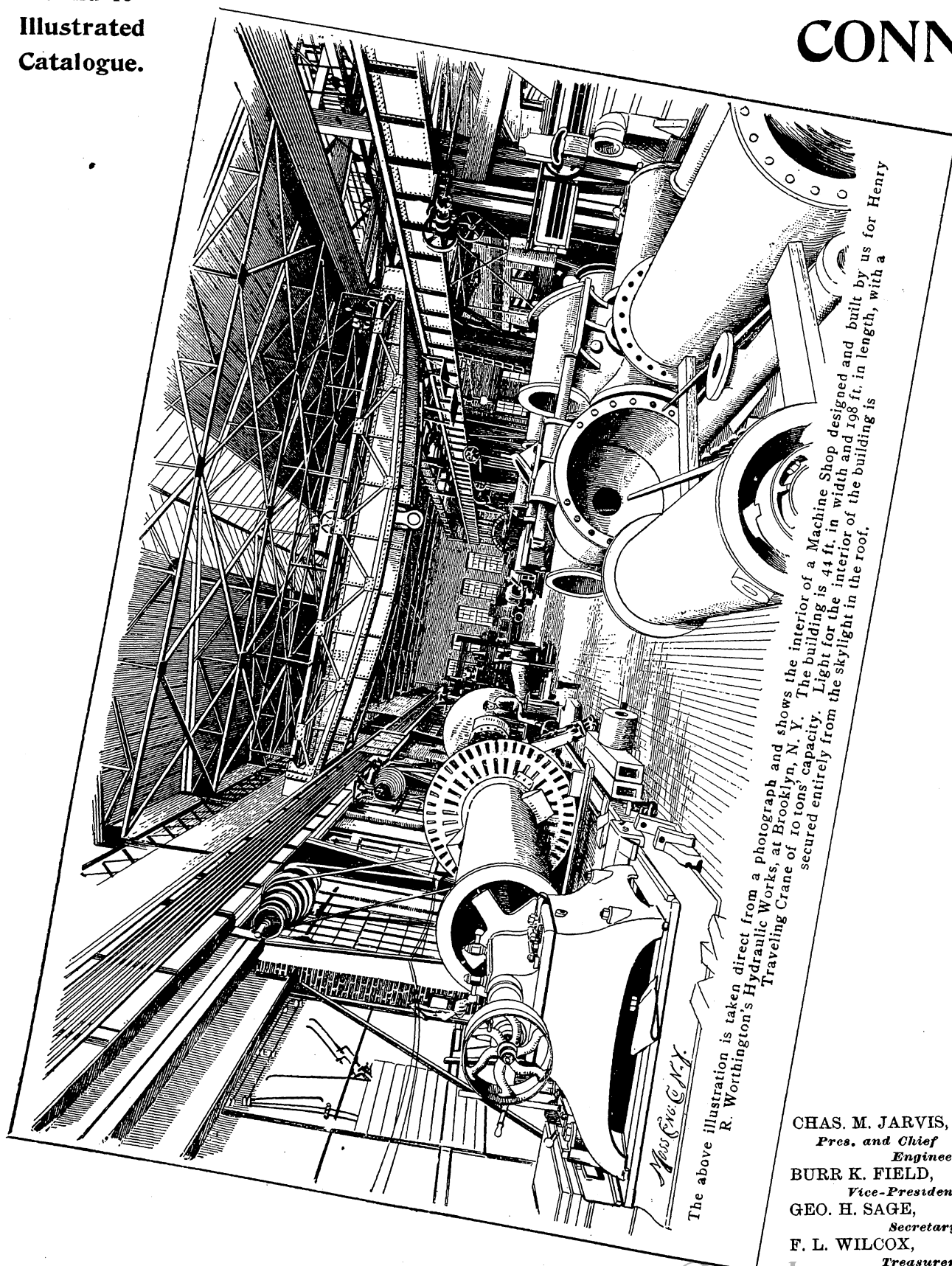
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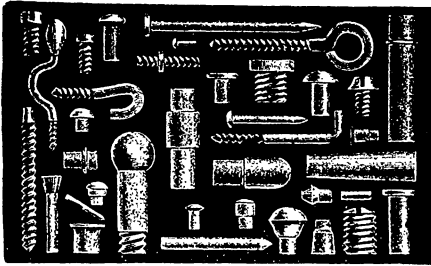
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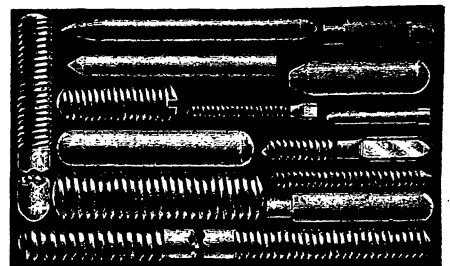


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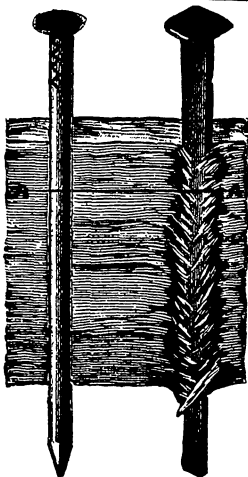
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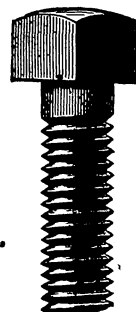
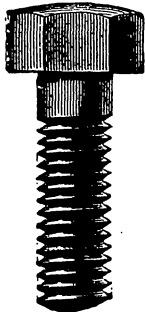
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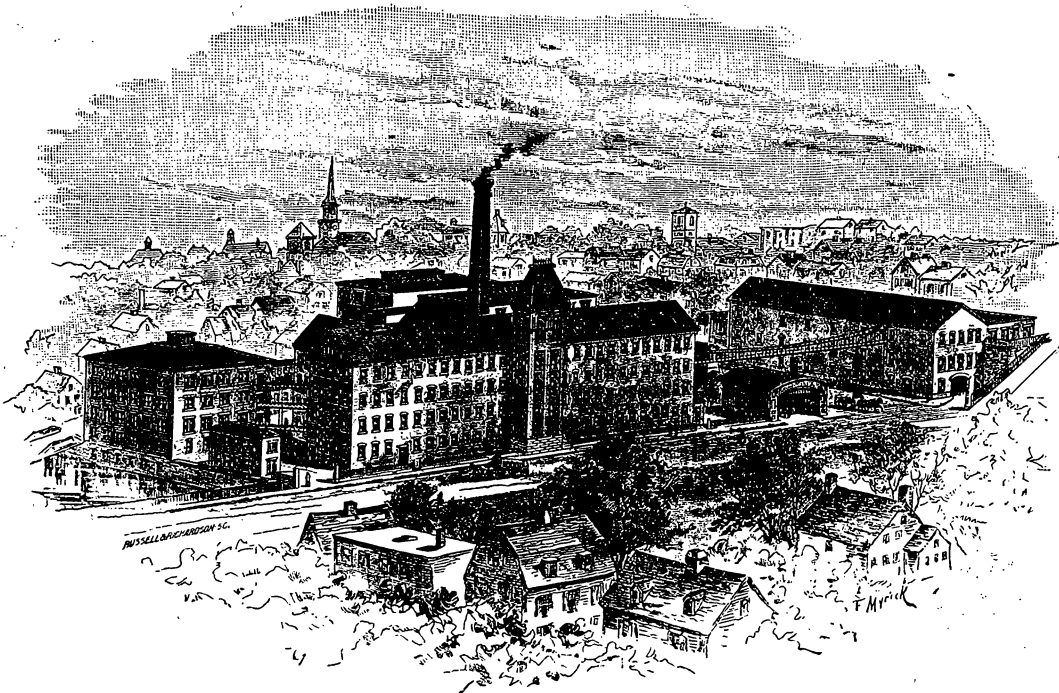
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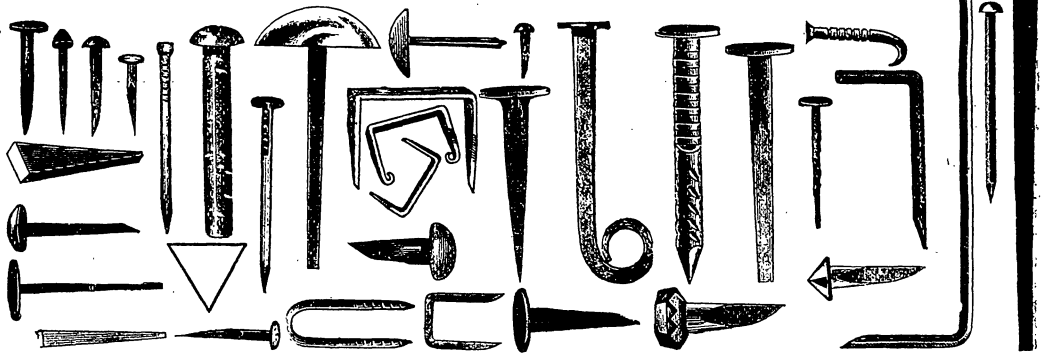
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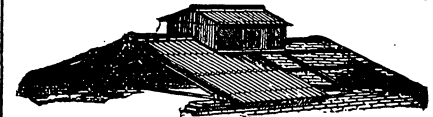
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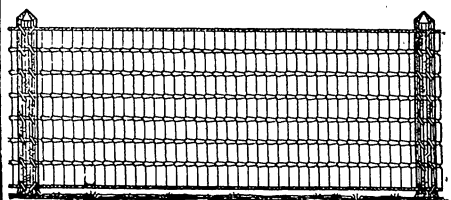
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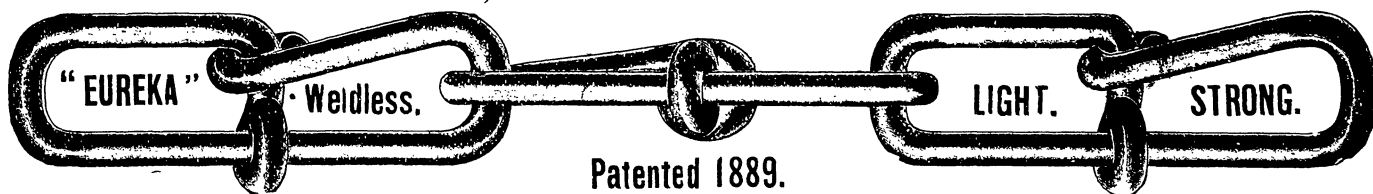
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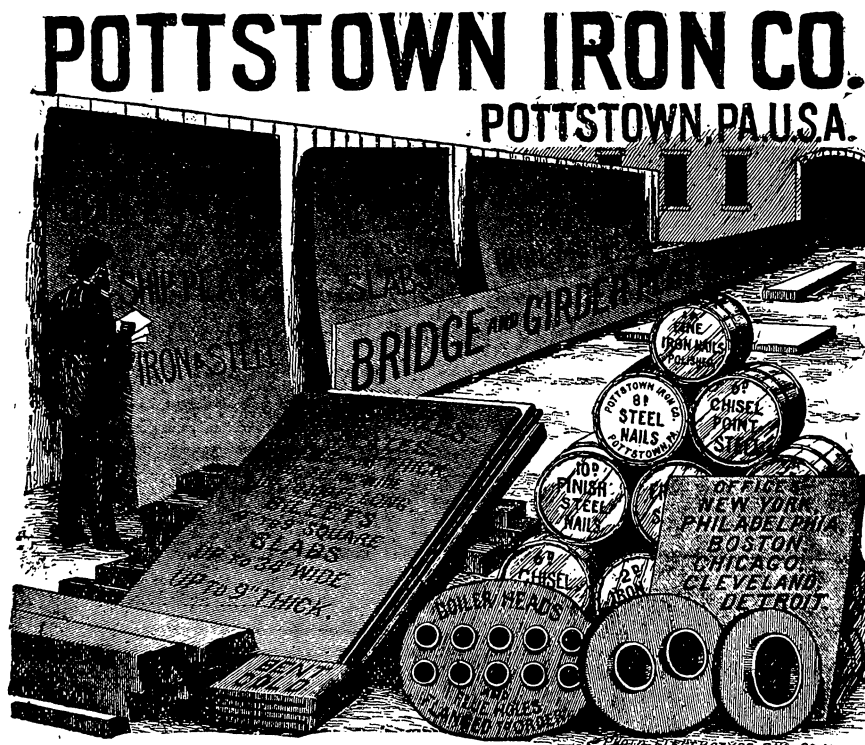


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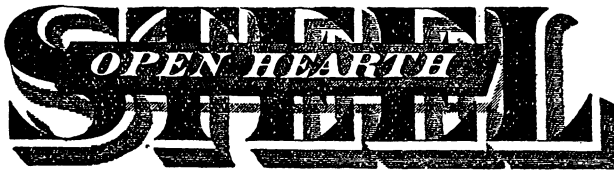
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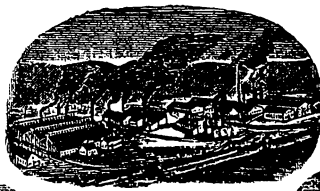
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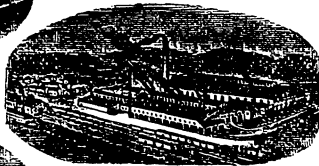
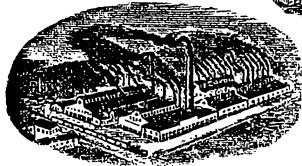
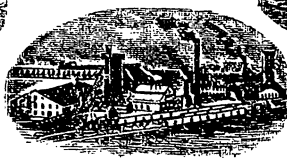
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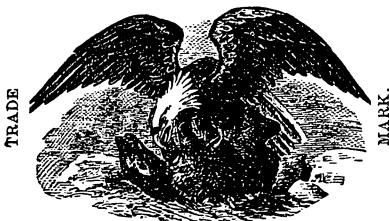
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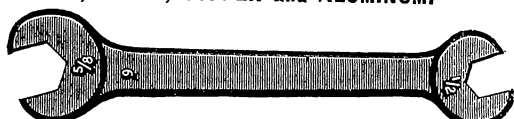
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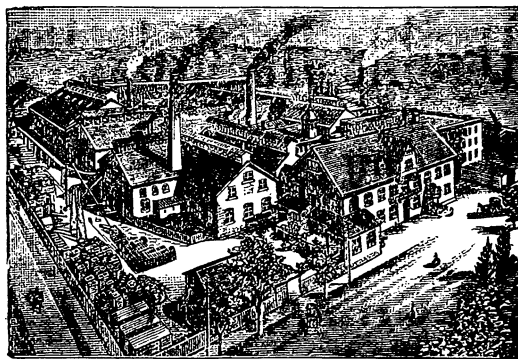
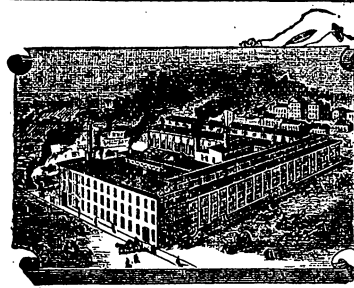
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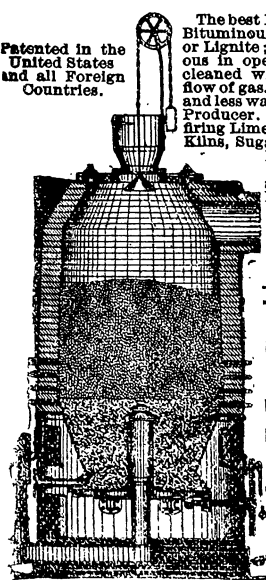
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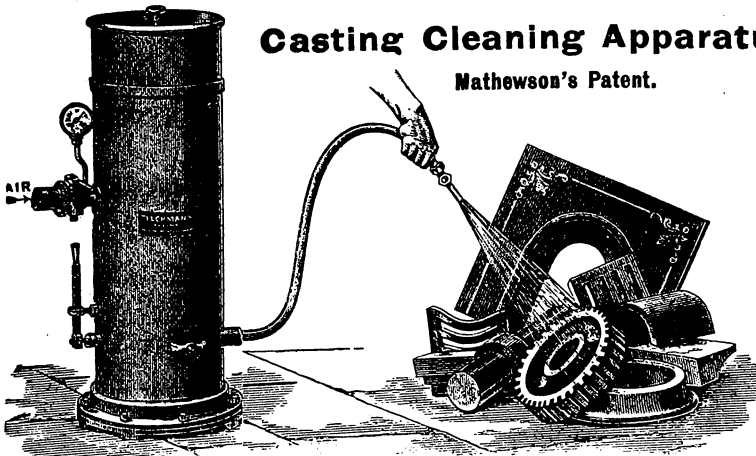
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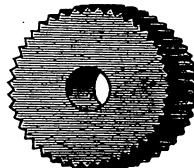
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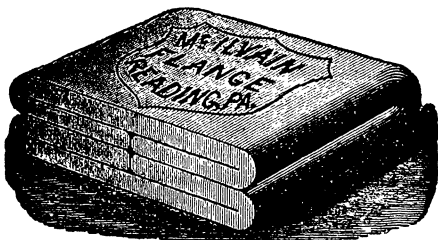
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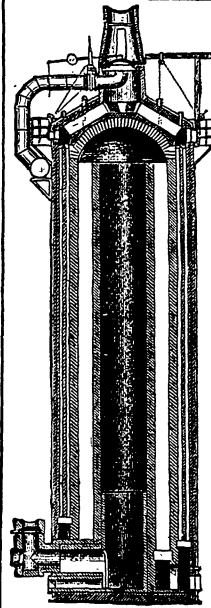
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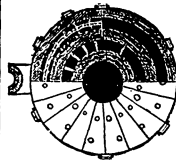
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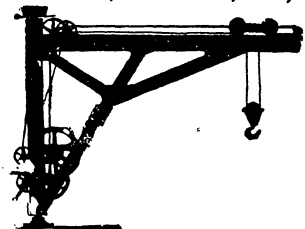


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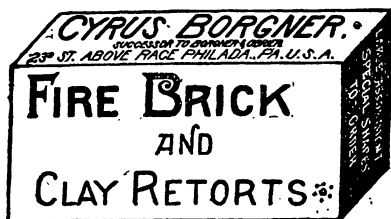
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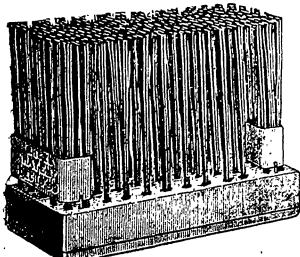
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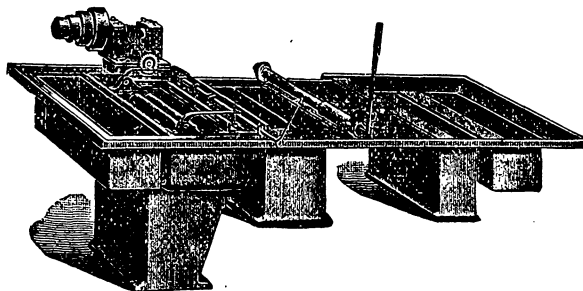
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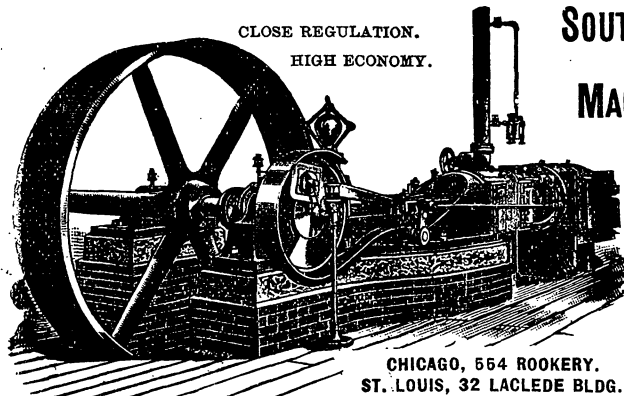
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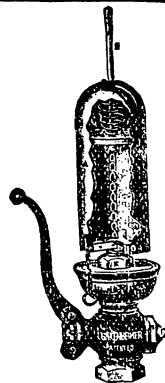
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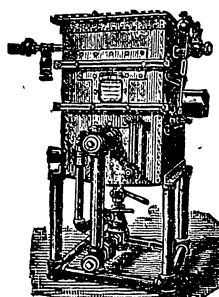
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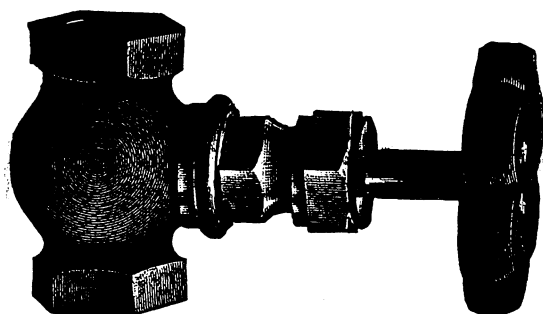
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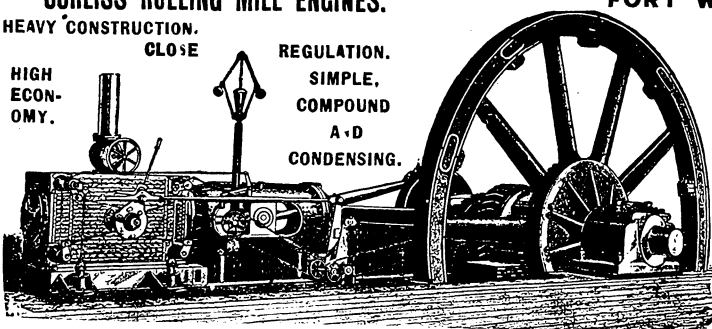
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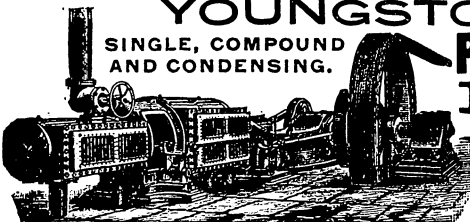
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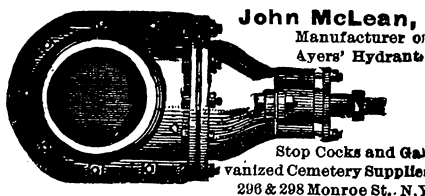
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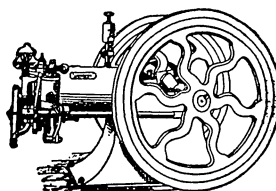
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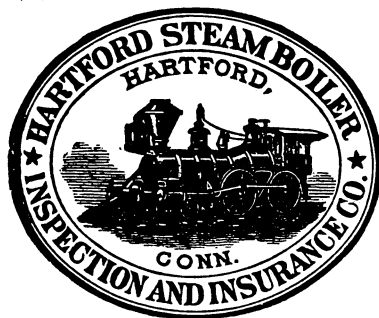
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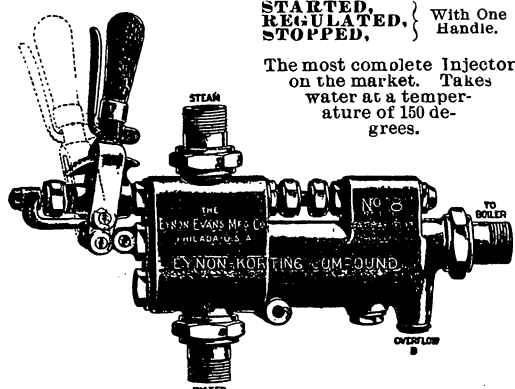
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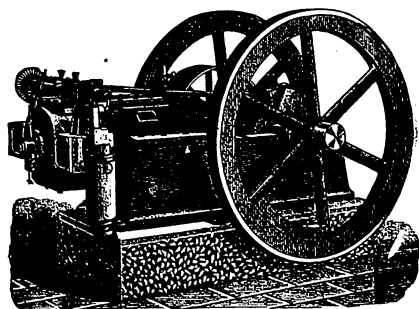
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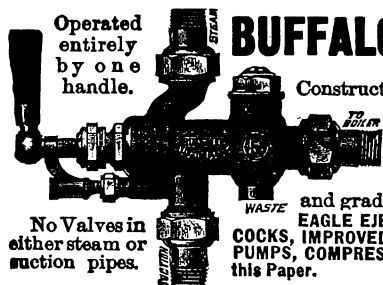
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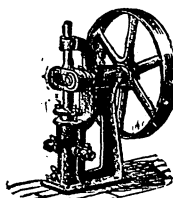
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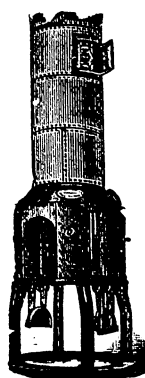
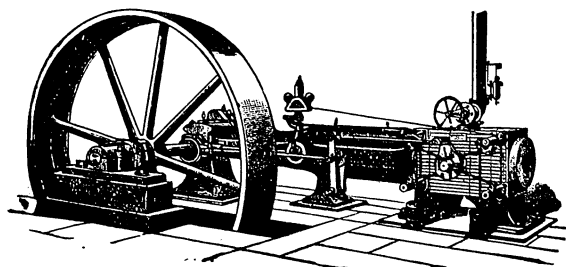
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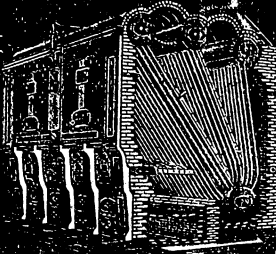
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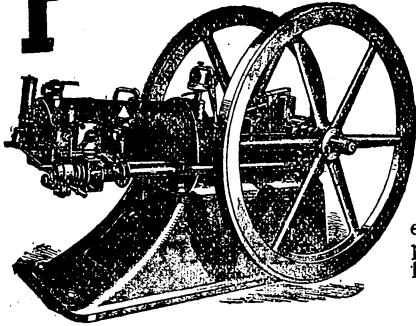
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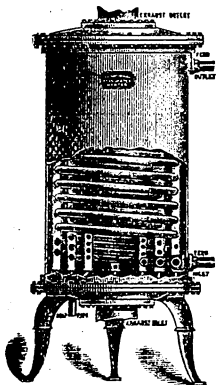
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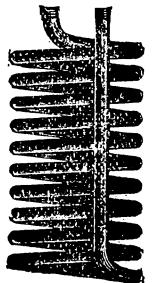


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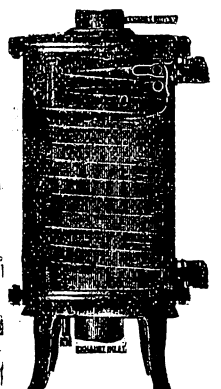
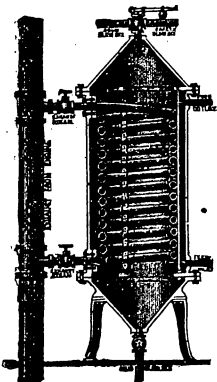
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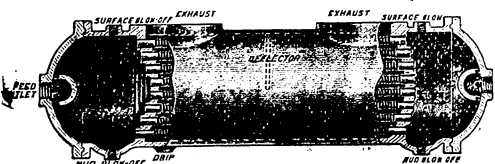
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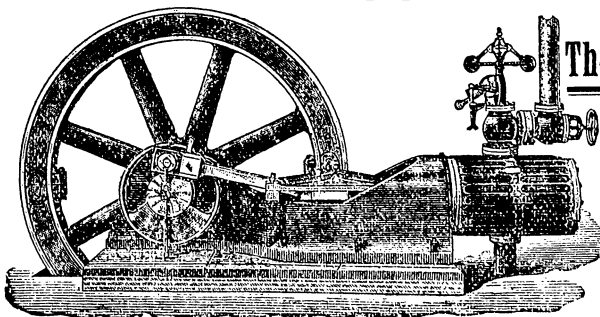
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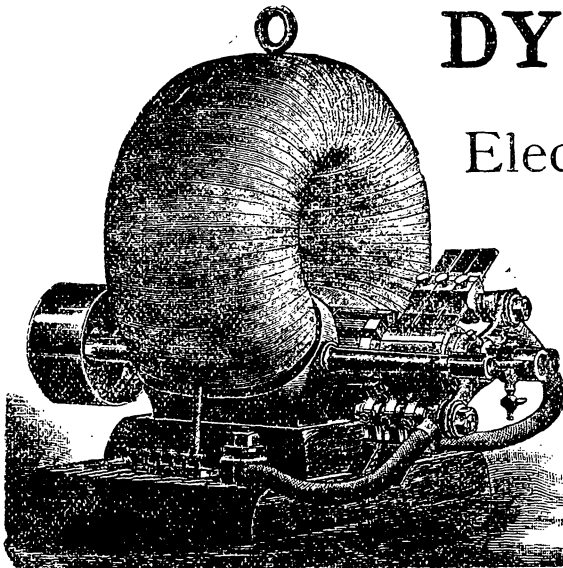
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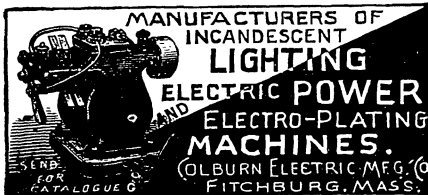
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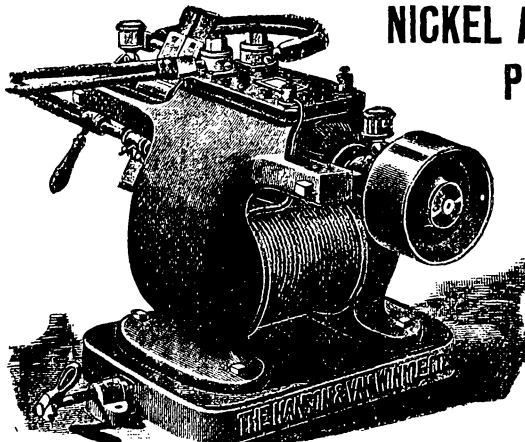
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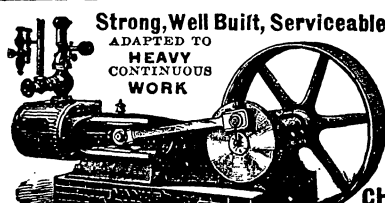
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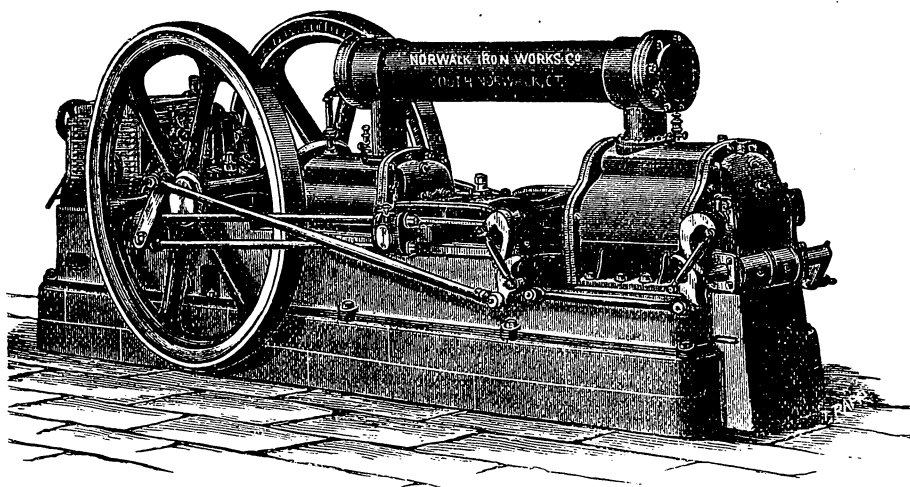
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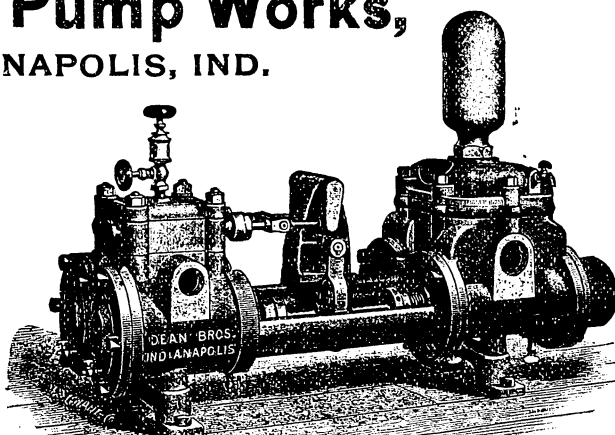
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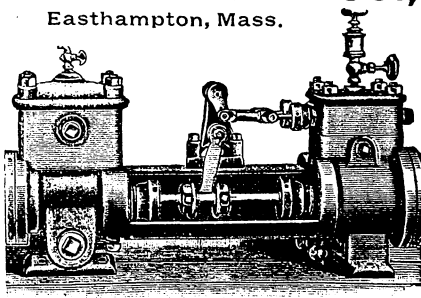
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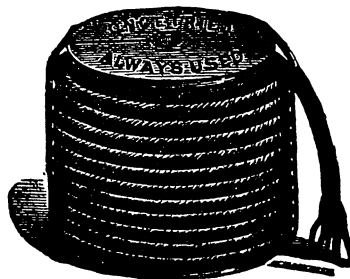
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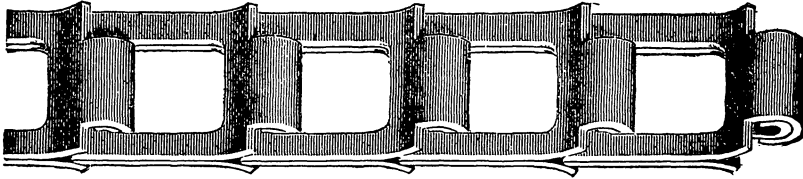
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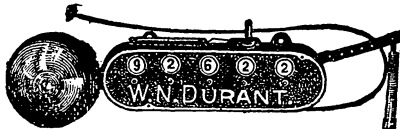
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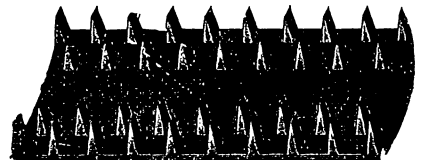
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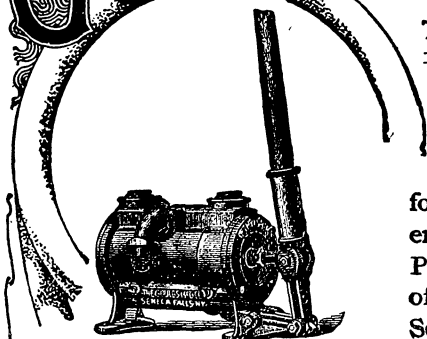
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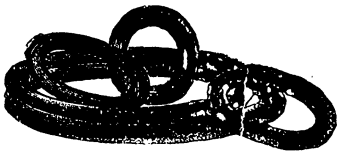
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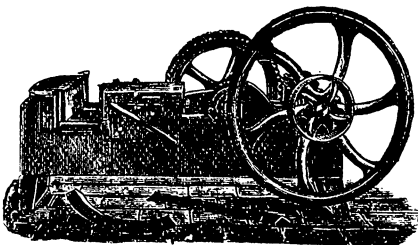
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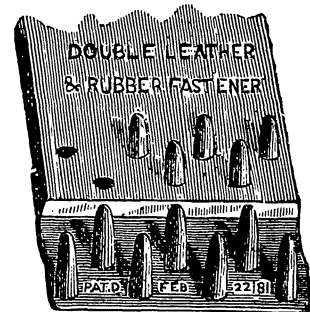
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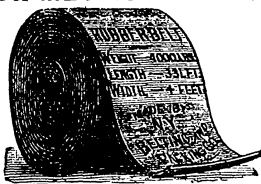
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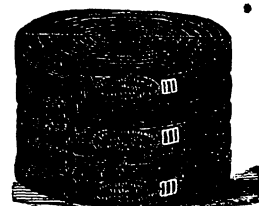
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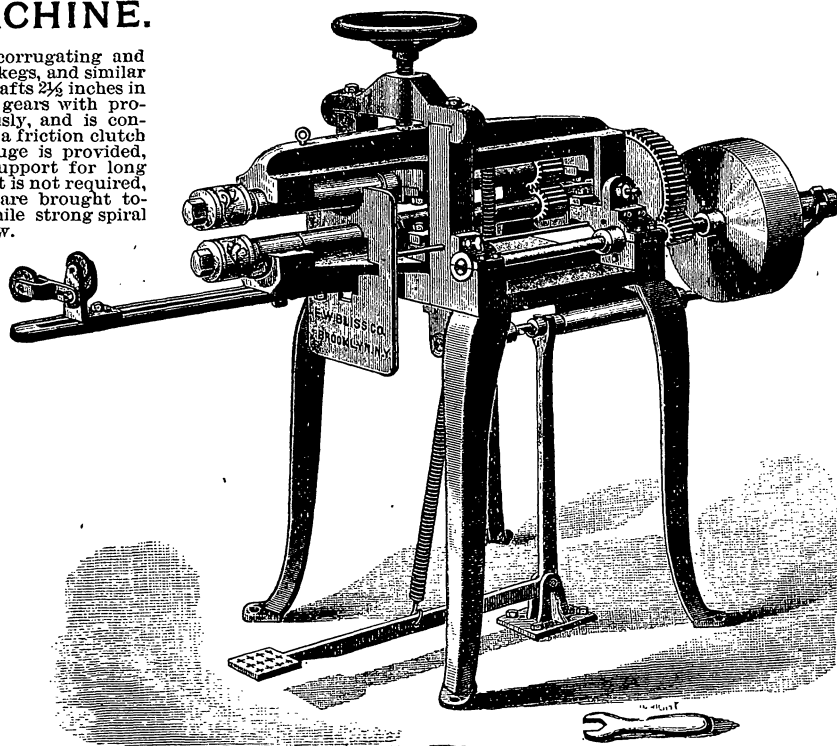
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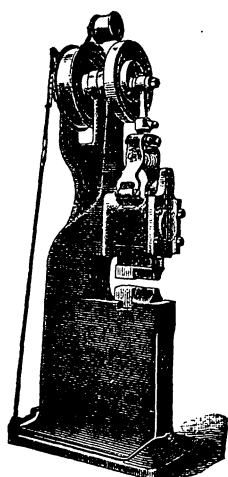
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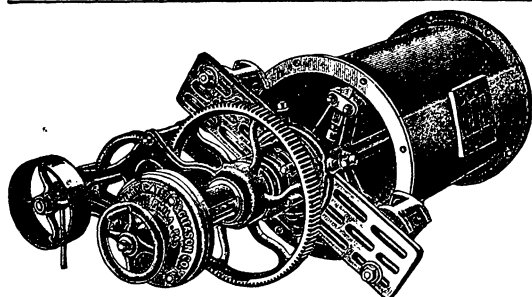
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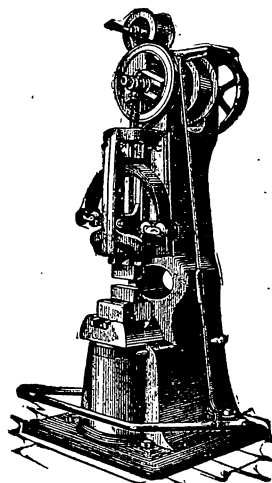
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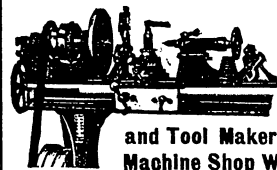
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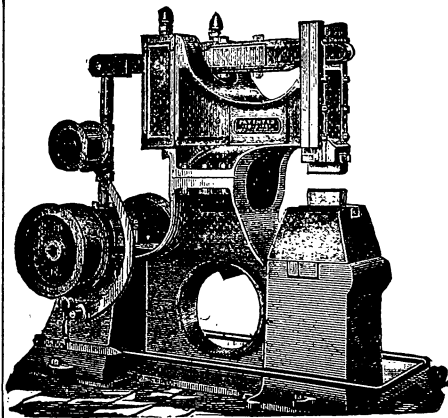


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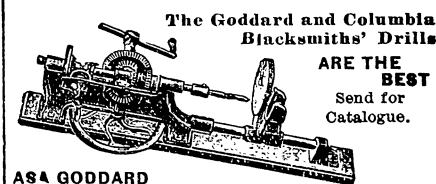
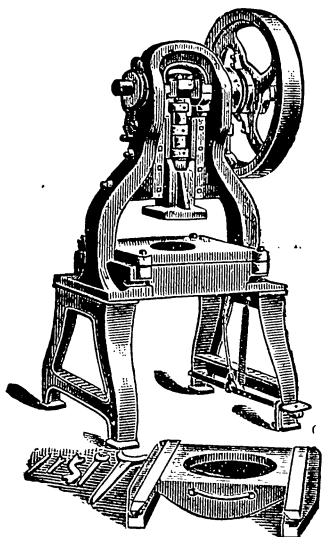
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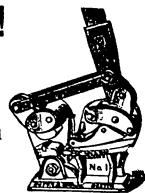
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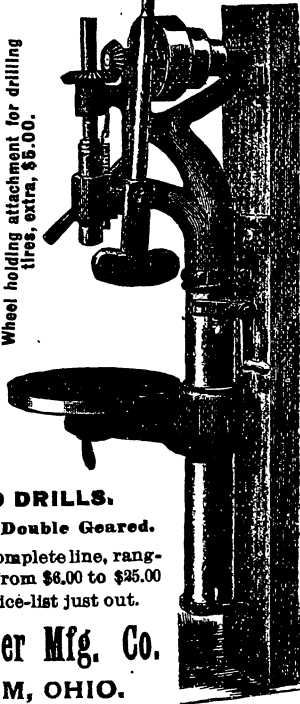
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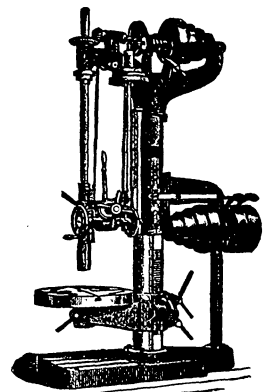
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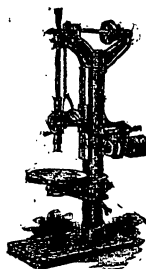
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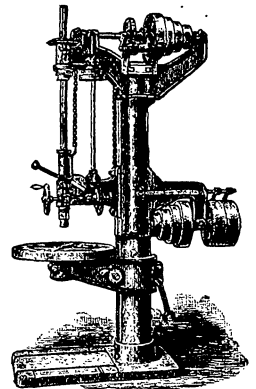
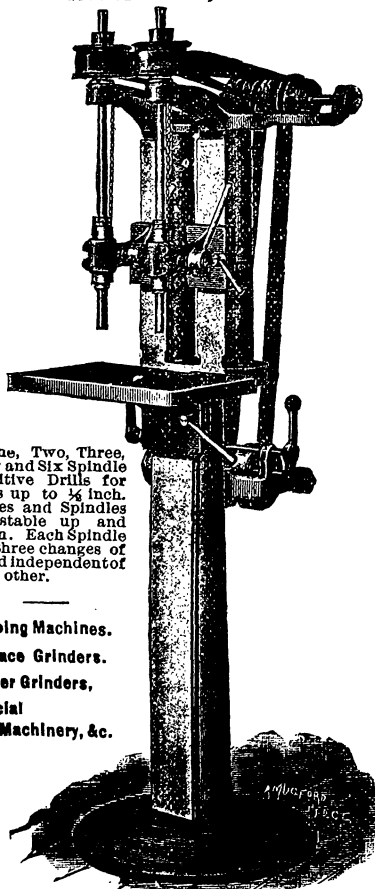
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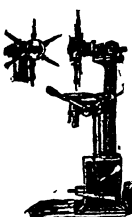
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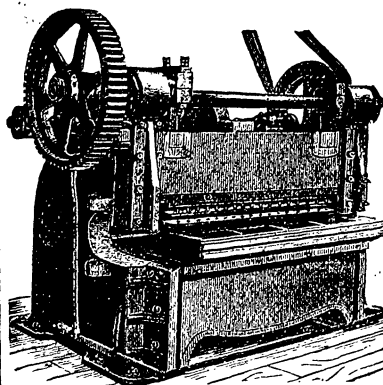
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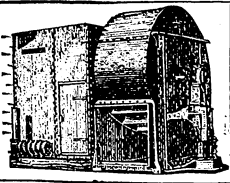
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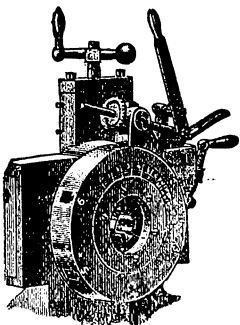
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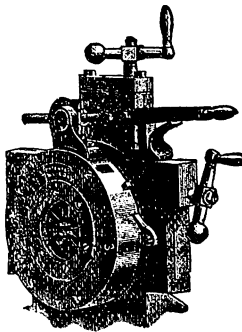
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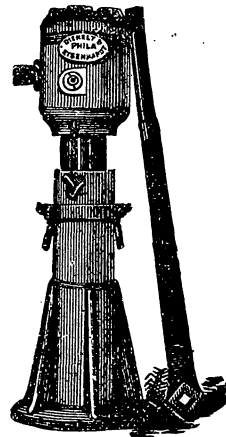
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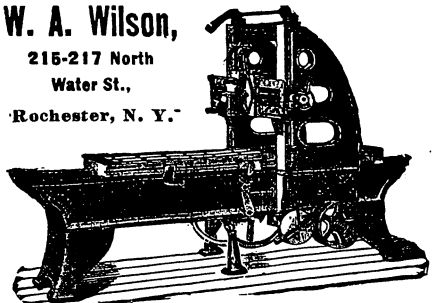
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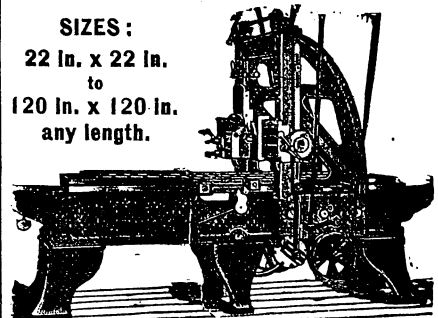
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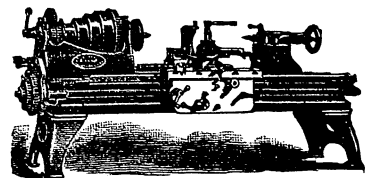
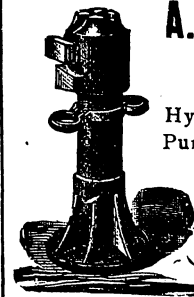
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III. SOURCES OF CURRENT. CHAPTER III. GALVANIC ELEMENTS; THERMO-FILES; MAGNETO AND DYNAMO-ELECTRIC MACHINES.  
IV. PRACTICAL PART. CHAPTER IV. ARRANGEMENT OF ELECTRO-PLATING ESTABLISHMENTS IN GENERAL; ELECTRO-PLATING ARRANGEMENTS IN PARTICULAR. V. TREATMENT OF THE METALLIC ARTICLES. (a) Mechanical Treatment; (b) Chemical Treatment. VI. PROCESSES OF ELECTRO-DEPOSITION; REDUCTION OF METALS WITHOUT A BATTERY (Electro-Deposition by Contact). VII. DEPOSITION OF NICKEL AND COBALT. 1. Nickelling; 2. Cobalting. VIII. DEPOSITION OF COPPER, BRASS AND BRONZE. 1. Coppering; 2. Brassing (Culverpoll Deposit); 3. Bronzing. IX. DEPOSITION OF SILVER. X. DEPOSITION OF GOLD. XI. DEPOSITION OF PLATINUM AND PALLADIUM. 1. Deposition of Platinum. 2. Deposition of Palladium. XII. DEPOSITION OF TIN, ZINC, LEAD AND IRON. 1. Deposition of Tin; 2. Deposition of Zinc; 3. Deposition of Lead; 4. Deposition of Iron (Steeling). XIII. DEPOSITION OF ANTIMONY, ARSENIC AND ALUMINIUM. 1. Deposition of Antimony. 2. Deposition of Arsenic; 3. Deposition of Aluminium. XIV. GALVANOPLASTY (Reproduction). 1. Galvanoplastic Deposition in the Cell Apparatus; 2. Galvanoplastic Deposition by the Battery and Dynamo Machines. XV. COLORING, PATINIZING, OXIDIZING, ETC. OF METALS, ACQUENING. XVI. APPARATUS AND INSTRUMENTS. XVII. HYGIENIC RULES FOR THE WORKSHOP. XVIII. CHEMICAL PRODUCTS USED IN THE ELECTRO-PLATING ART. XIX. USEFUL TABLES. INDEX.

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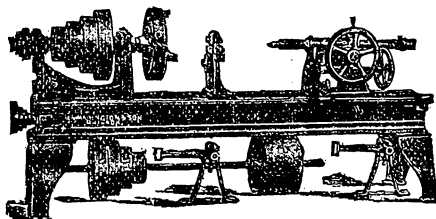
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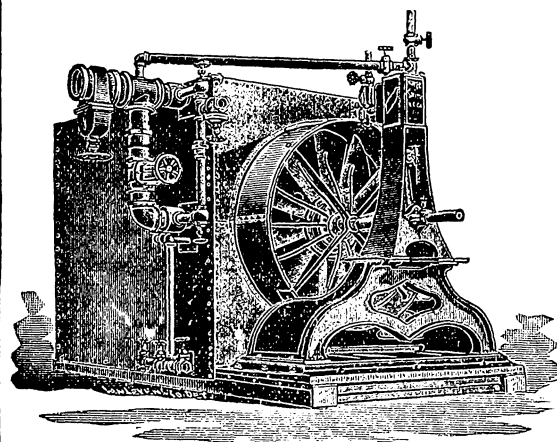
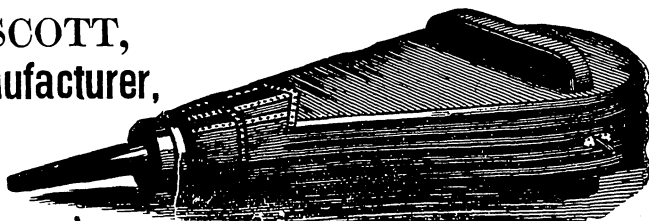
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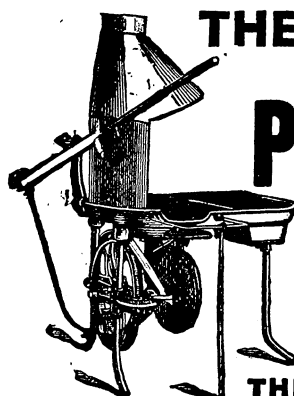
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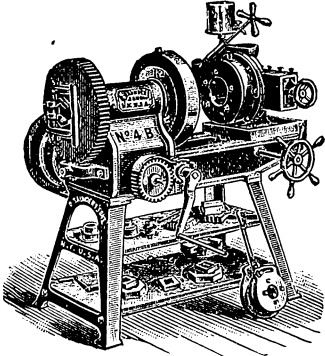
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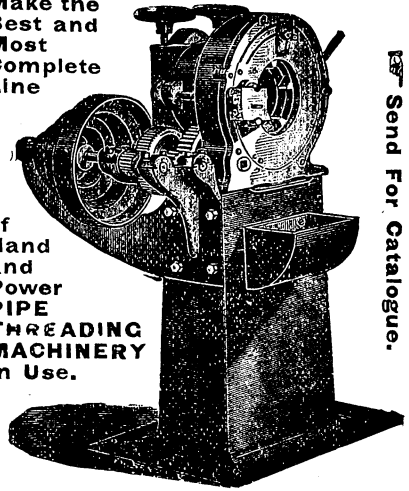
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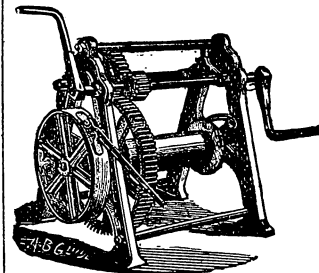
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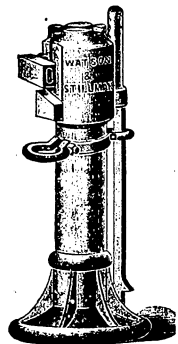
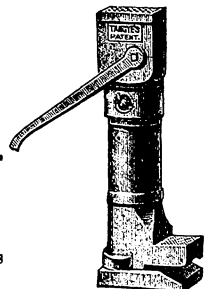


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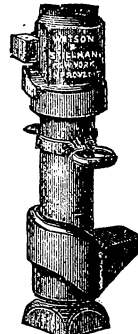
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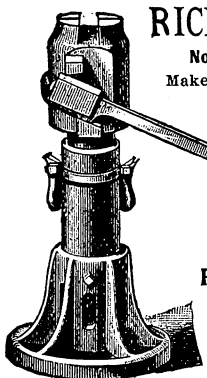
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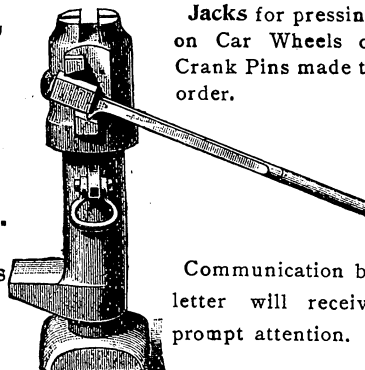
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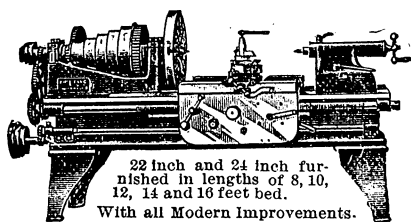
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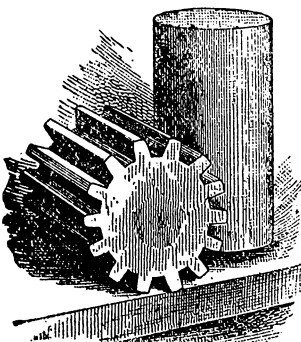
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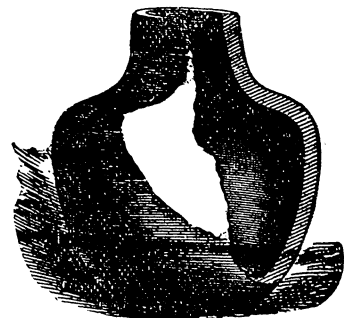
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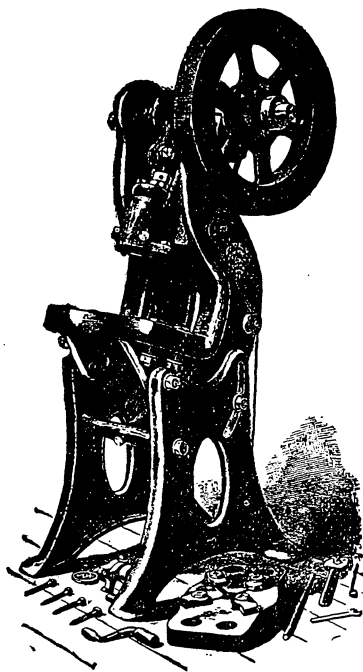
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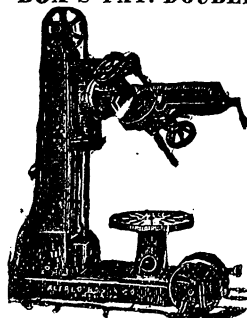
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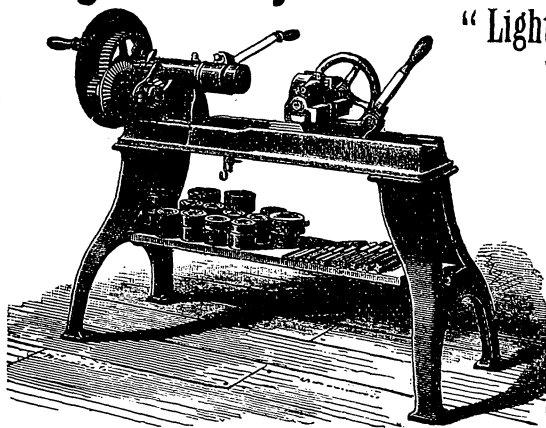


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## Maule's "Skeleton" Pipe Die

Two "Points" about it—only 2 (There are plenty more, but we only mention these two here.)

I

The First Cost to you of MAULE'S "SKELETON" PIPE DIE is less than that of any other Pipe-Threading Die—and

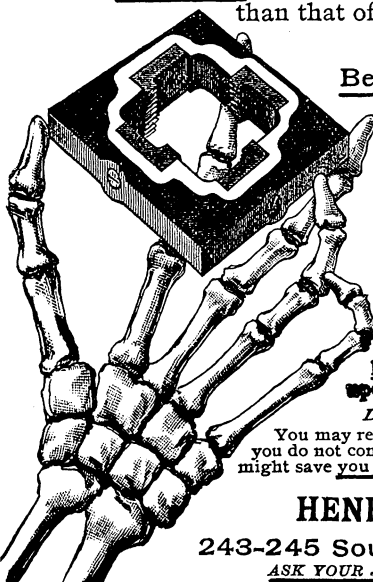
2

Before it becomes dull from use it will cut as many perfect threads as the best solid die extant, and when it is dull, you don't throw it away and buy a new one—Oh, no! You simply sharpen the cutters on a common grindstone, and so make it practically as good as it was at first, and this sharpening process may be repeated a number of times.

A sample One-inch "Skeleton" Pipe Die, either  $2\frac{3}{8}$  or  $2\frac{1}{2} \times \frac{3}{4}$  thick, by mail, postage prepaid, will cost you 62 cents, and will be sent upon receipt of a Postal note for that amount.

DO NOT SEND US ANY POSTAGE STAMPS.

You may return such sample to us, at our expense, if, after seeing it, you do not consider it worth the price. Don't the above sound as if it might save you some money—if TRUE?



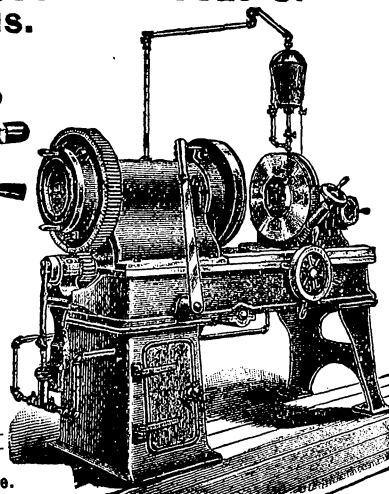
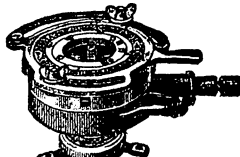
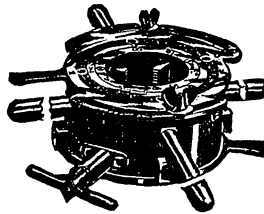
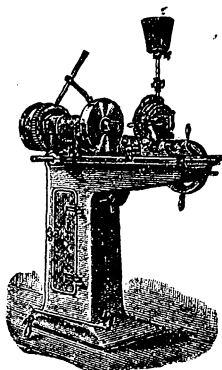
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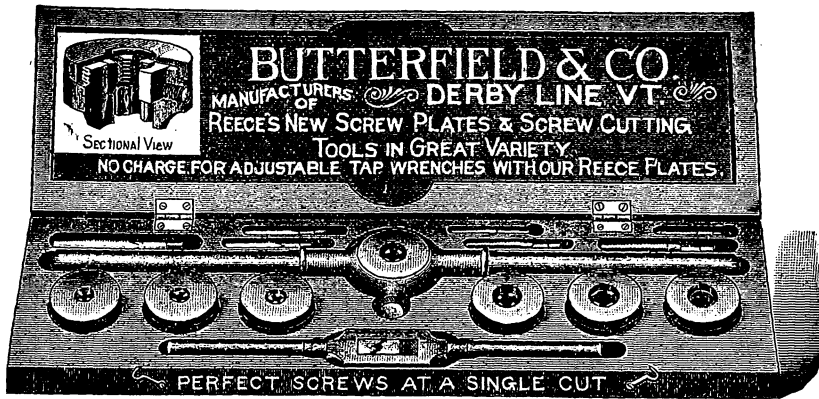
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Write for Catalogue showing the most complete line of  $\frac{1}{8}$ -inch to 16-inch for hand, belt, engine and with electric motor attachment.

We can furnish Bolt Threading Attachment for this Machine.



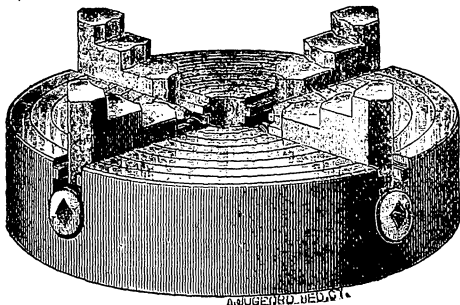
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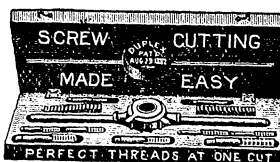


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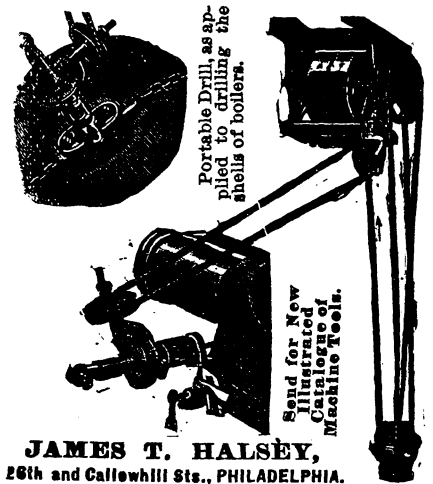
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Gear Wheels.

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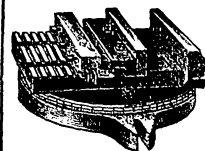
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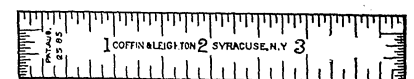
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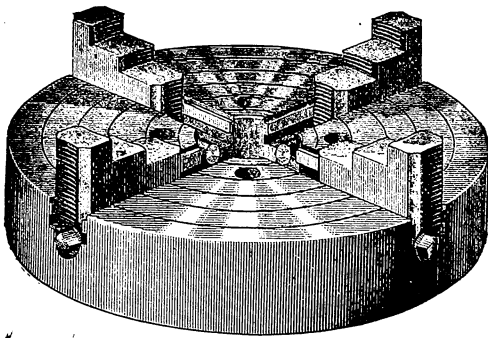
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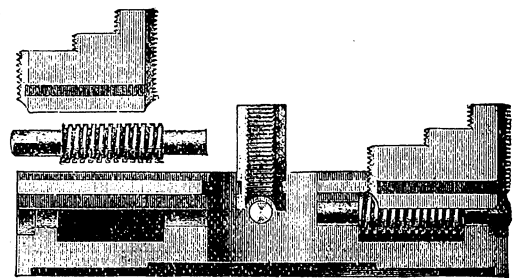
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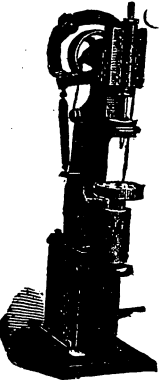
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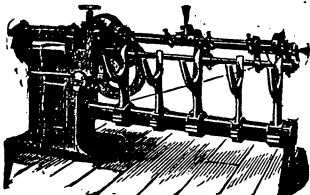
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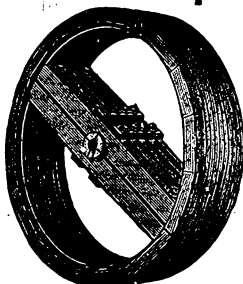
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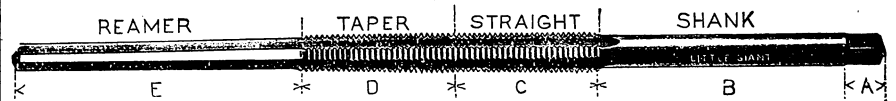
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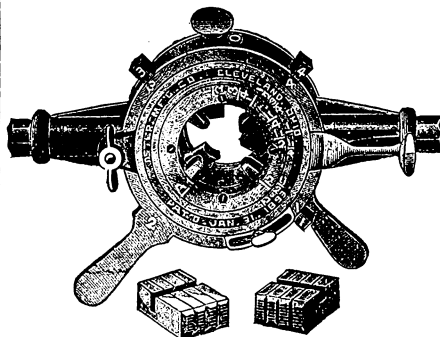
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CUT THIS OUT, mark  
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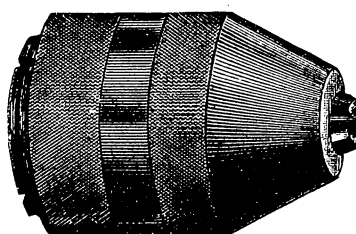
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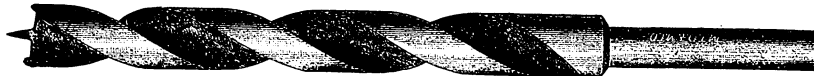
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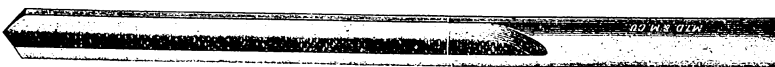
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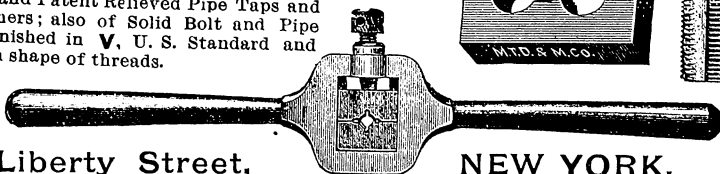
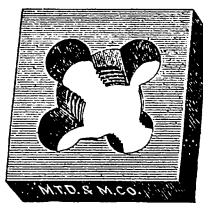
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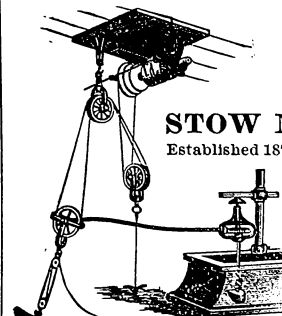
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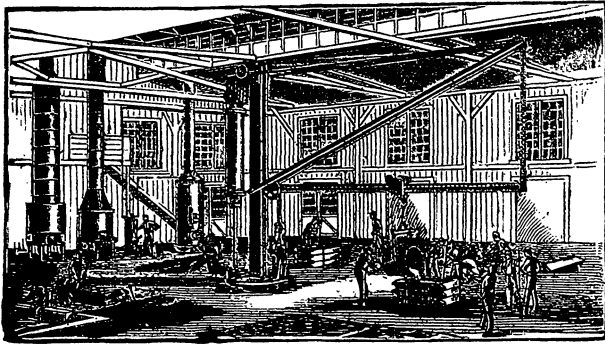
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Just take a walk around your plant and look at the places where you have a big gang of men laboriously and *OH, SO SLOWLY*, doing the work that *ONE* good man and a *RIDGWAY STEAM HYDRAULIC CRANE* would do in a jiffy. It is a wonderful crane. Don't cost much to buy, scarcely anything to install and absolutely nothing to run. Yet it has never failed to earn its cost *IN WAGES SAVED* in a few weeks, whether in mill, foundry or yard. The best concerns are getting them and unless you intend going out of business you must, too. Buy them now while things are low. We used to print a long list of users, but it has gotten too big for this "ad." Just to show the kind of wide-awake people who get them we are at this moment making them for the following:

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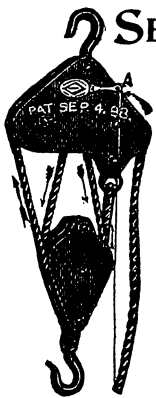
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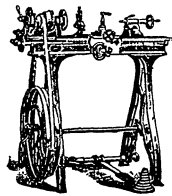
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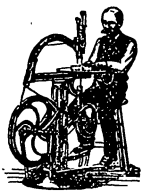
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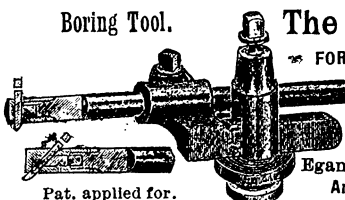
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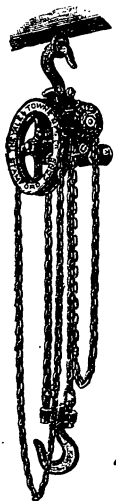
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Tool.**



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CONVERTIBLE SCREW BLOCK.

"Safety"

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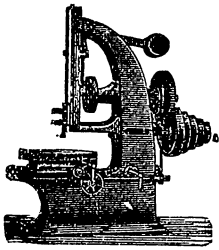
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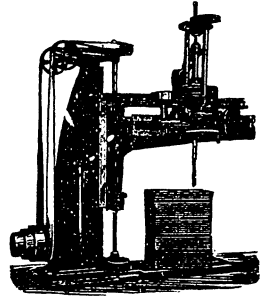
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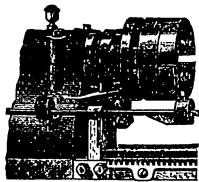
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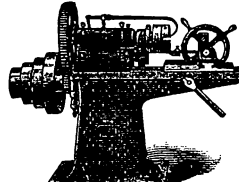
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Steam, Belt and Hand Power Elevators of every description,  
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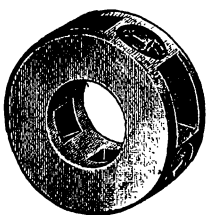
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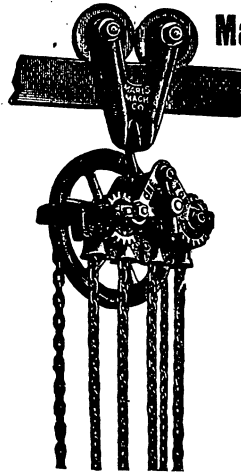
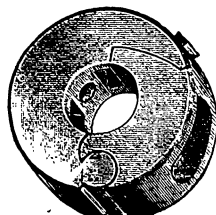


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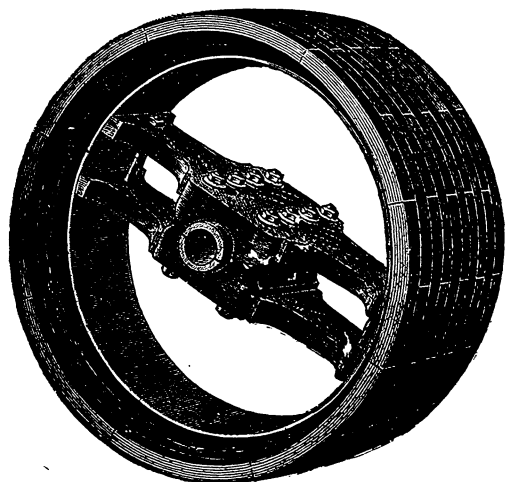
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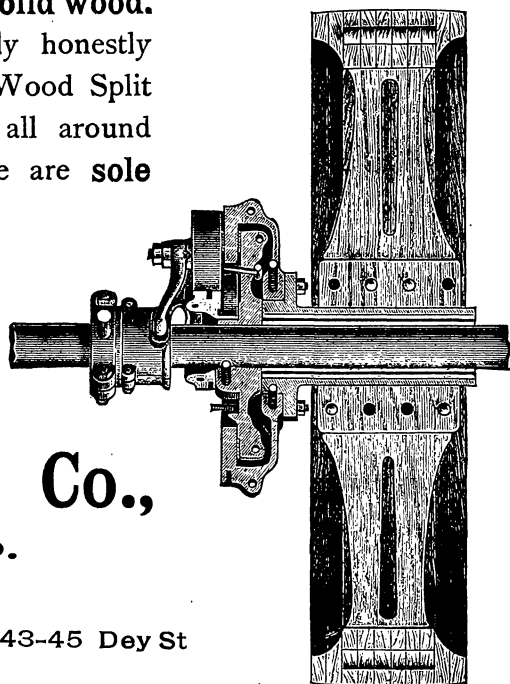
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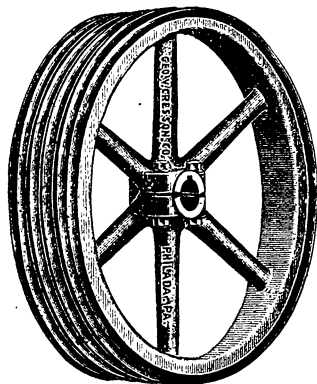
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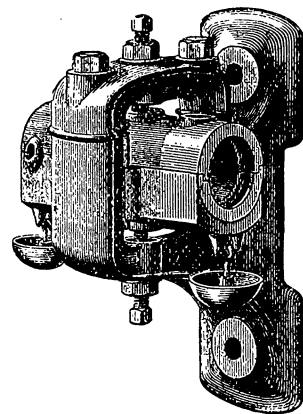
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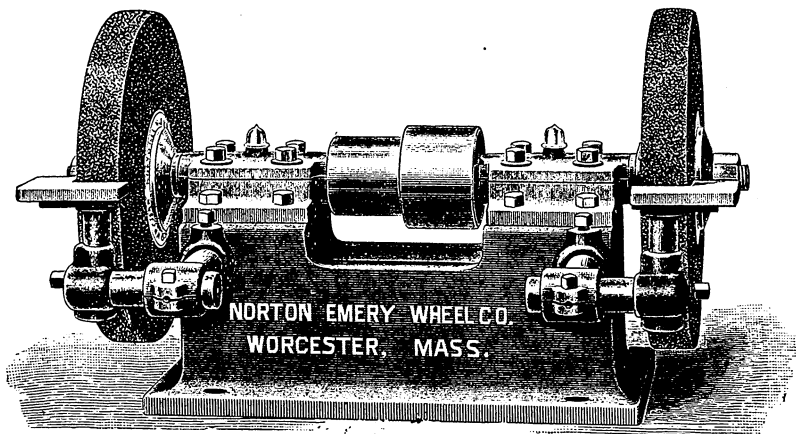
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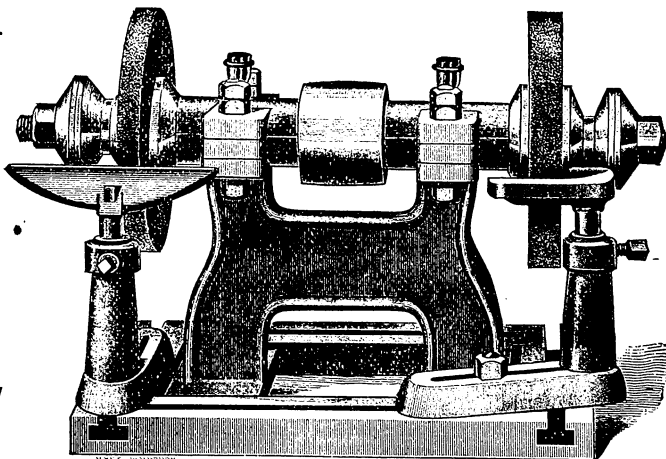
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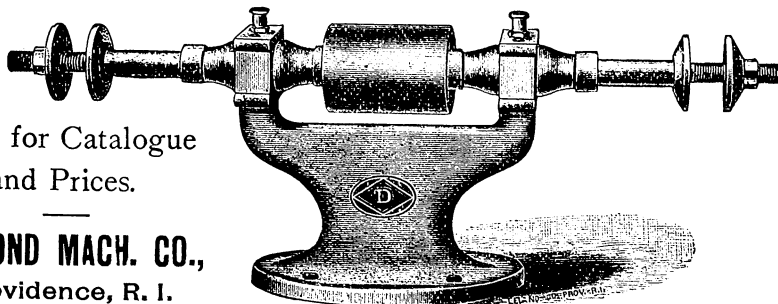
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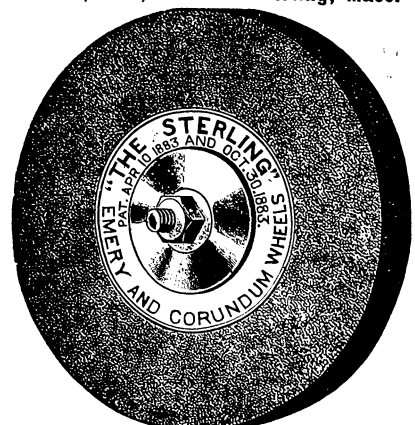
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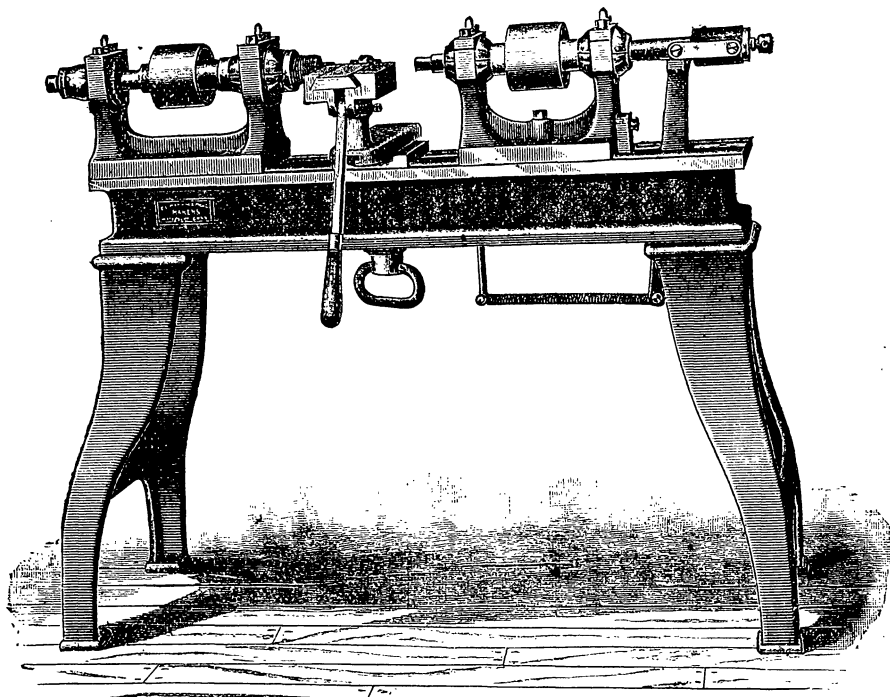
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**CRANE**. Hand power. Gib Crane, 15 tons capacity, 32 feet high, 28-foot reach. Wood frame, good as new.

WM. A. BOLE, Trustee,  
25th St., & Liberty Ave., Pittsburgh, Pa.

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Job Lots, Special Lots

**HARDWARE,**  
MANUFACTURED GOODS, Etc.,  
**FOR CASH.**

**H. H. MANSFIELD**, 126 Liberty St., N. Y.

### WANTED.

To furnish reasonable estimates on specialties in light metal work.

**CLARK & COWLES**, Plainville, Conn.  
Manufacturers of Clock Trimmings, Rivets,  
Springs &c.

## SOME GOOD THINGS.

- 2 9 in. x 15 in. Blake Crushers.
- 1 8 in. x 20 in. Comly Crusher.
- 1 Hilles & Jones Angle Shear.
- 1 10 in. Heavy Alligator Shear.
- 1 Heavy Combined Punch and Shear.
- 1 Medium Combined Punch and Shear.
- 1 Ferris & Miles Steam Drop Hammer.
- 1 5 in. Hurlburt & Rogers Cut-off Machine.
- 4 No. 6 Cameron Steam Pumps.
- 1 8 in. x 5 in. x 10 in. Delamater Duplex pump.
- 1 10 in. x 5 in. x 12 in. Niagara Brass Pump.
- 1 10 in. x 6 in. x 12 in. Dean Pump.
- 1 14 in. x 12 in. x 18 in. Blake Pump.
- Send for catalogue.

**THOS. P. CONARD,**

206 Walnut Place, Philadelphia.

## FOR SALE. SECOND-HAND ENGINES.

36 x 48 Corliss.	18 x 48 Corliss.
28 x 60 "	18 x 36 "
28 x 60 "	16 x 32 Fitchburg.
20 x 48 "	12 x 36 Corliss.
22 x 42 Wright.	10 x 24 "

**MARVIN BRIGGS,** 12 Broadway, N. Y.

## ICE MACHINES FOR SALE.

**2 LINDE MACHINES,**  
Capacity, 15 tons ice each and double that capacity as refrigerators.

**MARVIN BRIGGS,** 12 Broadway, N. Y.

**DOUBLE CORLISS CONDENSING ENGINE**, 600 H. P., One 15 inch by 42 inch Corliss Engine, 125 H. P. Double Automatic Engine, 350 H. P., two 100 H. P. Phoenix Automatic Compound Engines, 45 and 5 H. P., Westinghouse Engine, one 30 H. P. Beck Engine, one 7 x 7 Southwark Automatic Engine, one 4 H. P. Otto Gas Engine, 100, 200, 300 and 500 H. P. Feed Water Heaters, 30 to 100 H. P. Return Tubulars, 70 H. P. Locomotives, 60 H. P. Vertical Boilers, good for 100 pounds.

**FRANK TOOMEY**, Office 131 N. 3d St. Warehouses—974 to 980 Breach Street, 150 to 161 Canal Street, Philadelphia.

## Second-hand T Rails — FOR — BUILDERS' USE AND RELAYING FOR SALE.

Second-hand Steel and Iron T Rails of all sizes. Sound and selected and cut to specified lengths promptly for builders' use, vaults, kilns, foundations &c. at low prices and quick delivery. All sizes of selected relaying T and Girder rails ready for shipment at bottom figures. Apply

**JOSEPH JEWKES**, Steel Rails,  
Pittsburgh, Pa.

## AT ALL TIMES

we have on hand Steam Pumps, Second-hand and New. Every Second-hand pump is tested and guaranteed before leaving shop. Write us for information, also for catalogue, circulars, prices, etc., of the celebrated "Hooker Patent Steam Pump," which we manufacture.

**HOOKE-COLVILLE STEAM PUMP CO.,**  
St. Louis, Mo.

### SOME BARGAINS HERE.

- 1 Hendey Shaper, 15 in. stroke, imp. vise.
- 1 14 x 6 Screw Cutting Engine Lathe. New.
- Pattern Makers' Speed Lathe. 7 ft. Bed, \$40. New.
- 2½ Hendey Cutting-off Machine. New.
- 44 in. C. & D. Resaw. Fine condition.
- Radial Drill, 5½ ft. arm.
- Axle Cutting-off Machine, Double Head, cut 9½ dia.
- Quantity 2d hand Dodge Pulleys. Cheap.
- Safety Construction Company's combined Trip and Pump.
- And other machinery, new and second hand. Write for prices.

**Machinery Supply Company,**  
39, 41 and 43 Central Ave., Rochester, N. Y.

## A LARGE ADDITION TO OUR STOCK OF CORLISS ENGINES.

Also HIGH SPEED, Etc.

— SEND FOR CATALOGUE. —

Corliss—26 x 43, 23 x 36, 30 x 72, 10 x 20. Several large sizes guaranteed, viz.: 18 x 48, 23 x 48, 28 x 48, 30 x 48, 26 x 60. Many other sizes on hand. Porter-Allen 11 x 16 and other High Speeds. An assortment of Horizontal Tubular Boilers, Large Duplex Fire Pump, Brennan Crusher, Platform Scales, Burr Mill, Bogardus Mill, etc., etc.

**G. M. CLAPP**, 74 Cortland St., N. Y.

## SECOND-HAND MACHINE TOOLS.

- ENGINE LATHES.**
- 13 in. x 5 ft. Phenix.
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- 15 in. x 6 ft. Blaisdel.
- 15 in. x 8 ft. Fitchburg.
- 18 in. x 6 ft. Perkins.
- 16 in. x 7 ft. Bement.
- 16 in. x 6 ft. F. B. Reed.
- 18 in. x 6 ft. New Haven.
- 18 in. x 8 ft. Pease.
- 18 in. x 8 ft. Blaisdel.
- 18 in. x 10 ft. Blaisdel.
- 20 in. x 6 ft. Bullard.
- 20 in. x 12 ft. Field.
- 30 in. x 12 ft. Blaisdel.
- 37 in. x 14 ft. Old Style.
- 10 in. Slate, 1-Spindle.
- 10 in. 3-Spindle Slate.
- No. 12-Spindle Garvin.
- No. 23-Spindle Garvin.
- No. 34-Spindle Garvin.
- No. 36-Spindle Garvin.
- 20 in. Barnes.
- 20 in. Blaisdel.
- 24 in. Blaisdel.
- 5 ft. Niles Radial.
- 7 ft. Alfred Box Universal Radial.
- 9 ft. Holly Mfg. Co. Radial.

### PLANERS.

- 22 in. x 22 in. x 4 ft. L. W. Pond.
- 24 in. x 24 in. x 6 ft. Whitcomb.
- 24 in. x 24 in. x 10 ft. Pease Planer Co.
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- No. 1 Garvin.
- No. 5 Brown & Sharpe.
- No. 2 Garvin.
- No. 2 Warner & Swasey.
- No. 3 Windsor Mach. Co.
- No. 2½ Pratt & Whitney.
- No. 3 Garvin.
- 16 in. x 5 ft. Flather & Co.
- 18 in. x 6 ft. Hendey Machine Co.

### SHAPERS.

- 10 in. Juengst Crank.
- 10 in. Wood & Light Traverse Head.
- 15 in. Juengst Crank.
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### DRILL PRESSES.

- 10 in. Milliken Bench.
- 10 in. Gardam Sensitive.

Also a large number of other machines. Write for complete list and detailed description.

### THE GARVIN MACHINE CO.,

Light and Canal Sts., New York.  
Also 51 North 7th St., Philadelphia, Pa.

### !!! FOR SALE. !!!

- BAKER BLOWERS**, Nos. 3, 4, 5, 5½, 7 and 7½.
- ROOT BLOWERS**, Nos. 1, 2, 3, 5, 6 and 7.
- CAMERON VACUUM PUMP**, 16 in. x 20 in. x 24 in.
- KNOWLES PUMP**, 14 in. x 10 in. x 12 in.
- NIAGARA PUMP**, 9 in. x 5 in. x 10 in.
- 1 No. 9 CLAYTON DUPLEX AIR COMPRESSOR**, 22 in. x 24 in. x 30 in.
- Horizontal Boilers, 18 ft. x 6 ft., 7 ft. x 3 ft. Fixtures.
- Locomotive Boilers, 20, 60 and 100 H. P.
- Machinery Buyers write to

**C. R. BIGELOW**, Machinery Expert,  
45 Dey St., New York City.

## FOR SALE. SECOND-HAND.

- ENGINES**, Horizontal and Vertical. All types and sizes up to 2000 H. P.
- BOILERS**, Vertical and Horizontal, and 3 Batteries of "Heine" water tube.
- MILLS**, 3 high, 12 in., 20 in., 22 in., 30 in. and 36 in. 1 Reversing 32 in. Blooming Mill complete.
- STEAM HAMMERS**. Various sizes up to 10 ton.
- SHEARS** for Bars, Rails, Blooms and Plates.
- SQUEEZERS**, ROLL LATHES, CRANES, GRINDING PANS, MACHINE SHOP TOOLS, &c.
- LOCOMOTIVES**. Fine condition, various sizes and gauges.

"If you don't see what you want, ask for it" of

**B. M. EVERSON,**

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## ALUMINUM GOODS

AND small CASTINGS in quantity to order. No goods for sale. All kinds of novelties made. If you are after information, enclose stamp. **THE H. H. FRANKLIN MFG. CO.,** Syracuse, N. Y.

### FOR SALE.

The Star and Crescent Furnace, capacity 50 tons per day, with all the Buildings, Ore Lands, Tramways and Equipments. The whole of it new and in good running order. Plenty of ore, cheap charcoal, plenty of labor and plenty of water. Pig iron can be made cheaper than in any other part of the Union. This furnace is located on a railroad line and is situated in Cherokee County, Texas, near New Birmingham. **LEON F. HAUBTMAN**, Room 9, Godchaux Building, New Orleans, La.

## Rails Wanted.

We are in the market for 200 tons 60 lb. Steel Relaying Rails with or without splices.

**G. H. SIBELL & CO.,**  
218 La Salle St., Chicago.

## Scrap Wanted.

500 tons Pipe and Flue Scrap. 500 tons Soft Steel Bushing Scrap. Old Iron or Steel Rails. Cast or Wrought Scrap.

**G. H. SIBELL & CO.,**  
218 La Salle St., Chicago.

**SECOND-HAND MACHINERY.****ENGINE LATHES.**

2 11 in. x 5 ft. Raise and Fall Rest, Reed & Prentice. A1 order.  
 1 15 in. x 6 ft. Plain Glib. Reed. A1 order.  
 5 16 in. x 6 ft. R. & F. and Plain Glib Carriage. Young, Blaisdell and Flather. A1 order.  
 1 17 in. x 8 ft. Comp. Rest, P. C. Feed. Fifeild. A1 order.  
 2 18 in. x 8 ft. Comp. Rest, P. C. Feed. Fifeild and Dustin. A1 order.  
 1 19 in. x 6 ft. Comp. Rest, P. C. Feed. Fifeild. A1 order.  
 3 20 in. x 6 ft. x 8 ft. Plain and Comp. Rest. Bulard. A1 order.  
 1 24 in. x 25 ft. Plain Rest. Lathe and Morse. A1 order.  
 1 36 in. x 18 ft. Comp. Rest. Bement, Colby & M. Fair order.  
 1 32 in. x 16 ft. Comp. Rest. Perkins. Practically new.

**DRILLS, SINGLE SPINDLE.**

2 20 in. Wheel and Lever Drill. Prentice & Davis. Good order.  
 20 in. Geared Drill. Very heavy. Good order.  
 1 20 in. x 38 in. Gap Wheel Feed Drill. Wood & Laight. Fair order.

**GANG DRILLS.**

3 Sensitive Drills. Slate. 1, 2 and 3 spindle. A1 order.

ALSO LARGE STOCK NEW TOOLS.

**THE NILES TOOL WORKS CO.,**  
 Eastern Branch, 136, 138 Liberty St., N. Y. City.

**RAILS FOR SALE.****NEW AND SECOND-HAND**

Relaying rails of all sections. Second-hand **Out Rails for Builders' Use.** Also a small second-hand Engine and Boiler for sale.

J. H. RICHARDSON &amp; CO.,

Pittsburgh, Pa.

**Rolling Mill Engine For Sale.**

225 H. P. Horizontal Slide Valve Engine, size 23 in. x 60 in. Perfect order. Also 50 H. P. "Wilbraham" 13 in. x 24 in. Horizontal Engine with fly wheel and band wheel. Return Tubular Boiler, Stack and Fixtures for this Engine. Also 16 in. 3-high Roll Housings and V-Pinlon Housings. Pinions and Plate Rolls. Lot of 19 in. Rolls. 18 ft. Fly Wheel, weighing 20 tons Cheap.

**G. W. SCHULTZ & CO.,**  
 308 Walnut St., PHILADELPHIA.

**SECOND-HAND MACHINERY FOR SALE.**

Planers, Drills and Lathes, good as new, for cash.

**DIETZ, SCHUMACHER & CO.,**  
 Cincinnati, O.

**ENGINES.**

For Sale at low figures, to move.

One Russell R. H. 4 valve Automatic Engine, 15 x 20, used nine months, in splendid condition, weight 22,000 lbs.  
 One Phoenix Iron Works, Automatic, 10½ x 12, Engine, good as new.

Complete stock new and second-hand machinery.

**CAROTHERS & HOWE,**  
 Wheeling, W. Va.

**AGENTS WANTED IN EVERY STATE.**

Firms or traveling salesmen to represent makers of the best Water Tube Steam Boiler now on the market. Thorough experience and A1 references requisite. Address

"BOILERS," No. 816,

office of *The Iron Age*, 96-102 Reade St., N. Y.

2 Drills, P. & W. 1 and 2 spindle. A1 order.  
 6 Bench Drills. 5-16 in. capacity.

**PLANERS.**

1 24 in. x 24 in. x 6 ft. Planer.  
 1 27 in. x 27 in. x 8 ft. Planer.  
 1 60 in. x 60 in. x 22 ft. 4 Heads Planer.  
 1 60 in. x 60 in. x 22 ft. Hepworth Planer.

**SHAPERS.**

1 15 in. G. & E.  
 1 15 in. Smith.  
 1 24 in. Hendy.  
 1 17 in. Chase.

**MISCELLANEOUS.**

2 Punch Presses. Wilder & Stiles. In A1 order.  
 1 No. 3 Young Hand Shear. A1 order.

1 No. 2 Garvin Screw Machine, Wire Feed. A1 order.  
 1 Garvin Small Gear Cutter. A1 order.

6 Speed Lathes. Garvin & Young.  
 1 8 ft. Boring Mill, 2 Heads and Pulley At'cum't.

1 Bement Axle Lathe.  
**MILLING MACHINES.**

4 No. 7 Brainard Millers, 2 with arms. A1 order.  
 3 Garvin Millers, Nos. 2, 3 and 4. A1 order.

1 No. 1 B & S. Universal Miller. Complete.  
 1 Garvin 1-Spindle Profiler.

1 P. & W. 2-Spindle Profiler.

**BIG BARGAINS.****Second-hand Machinery For Car Shops.**

1 36 in. 150 ton Hydraulic Wheel Press.  
 1 Bement, Miles & Co. Single Axle Lathe.  
 1 36 in. Bement, Miles & Co. Car Wheel Borer with Hand Crane.  
 1 No. 6 J. A. Fay & Co. Car Mortiser and Borer.  
 1 J. A. Fay & Co. Car Tenoning Machine.  
 1 J. A. Fay & Co. No. 2½ Pacific Planer and Matcher.  
 1 J. A. Fay & Co. Universal Horizontal Car Borer.  
 1 J. A. Fay & Co. No. 4 Tenoning Machine.  
 1 Lane & Bodley Large Car Mortiser and Borer.  
 1 1 inch Double National Bolt Cutter.  
 1 J. A. Fay & Co. Vertical 3-Spindle Car Borer.

Write for full list of new and second-hand Wood and Iron Working Machinery.

**U. Baird Machinery Co.,**  
 Pittsburg, Pa.

**FOR SALE.****CRANK and GEARED SHAPERS.**

Write us for Bargains.

**J. STEPTOE & CO., Cincinnati, O.**

**FOR SALE.****SECOND-HAND MACHINERY.**

Nos. 1, 2, 5 and 6 Roots Blows s.  
 9 in. x 9 in. Fitchburg Vertical Engine.  
 54 in. x 9 ft. Vertical Boiler.  
 H. P. Baxter Engine and Boiler.  
 1 24 in. x 25 ft. bed Engine Lathe.  
 1 ¼ to 1½ in. open die Bolt Cutter.  
 Low prices.

COOKE &amp; CO.,

163 and 165 Washington St., New York.

**For Sale, Very Low for Cash.**

1000 tons relaying 60-lb. Steel T Rails, 500 tons relaying Steel Street Rails, side bearing, 35 to 47 lbs. sections. Also 3 tanks 7½ ft. diameter, 10 ft. high.

WM. H. PERRY &amp; CO., Providence, R. I.

**FOR SALE CHEAP.**

A lot of Rolling Mill Machinery, Engines, 30-inch Plate Trains, Shears, Testing Machines, Cranes, Pumps, Electric Light Machines, Sturtevant Blower, etc., etc. Full particulars by applying to

MATTHEW GILL, Jr.,

308 Walnut St., Phila, Pa.

**Tack Machines FOR SALE.**

25 Small Tack and Nail Machines. Will cut 3d and tacks and small tacks. Address

A. R. BASSETT,

Taunton, Mass

**WANTED.****WIRE NAIL MACHINES.**

One to cut 5 to 6 inch.  
 One to cut 2 to 3½ inch.  
 One to cut ¾ to 2½ inch.  
 One to cut ½ to 1¾ inch.  
 One to cut ¼ to 1½ inch.

Modern and in good condition. Address

"MODERN," No. 82,

office of *The Iron Age*, 96-102 Reade St., N. Y.

A certain lot of

**NEW ENGINES**

—AND—

**BOILERS.**

All styles. Sizes 6 to 75 H. P. To be closed out low for cash.

O. B. GOODWIN,

Sharon Hill, Pa.



We can save you money on new or second-hand tools. Get our prices before buying.

**THE LODGE & DAVIS**  
**MACHINE TOOL CO.,**  
 CINCINNATI, O., U. S. A.

**PITTSBURGH SALES AGENCY,**

J. H. HILLMAN, Manager,

**No. 8 Wood St.,**  
**Pittsburgh, Pa.,**

Offers for sale at very low prices **BESSEMER STEEL WORKS** and **STRUCTURAL STEEL MILLS**, also **STEEL MILL** for Rolling Bars and cold rolling, two **BLAST FURNACES**, a **RUSTLESS IRON WORKS**, interest in **TIN MILL** in **INDIANA**, **TUBE WORKS** and numerous other manufacturing interests and large quantity of very desirable **COAL PROPERTIES**, improved and unimproved.

**Dealers in Coal and Iron Lands.**

Examinations and Reports

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References on Application.

**For Sale or Lease.****TO CLOSE AN ESTATE.****Bloomfield, NEW JERSEY.**

Brass Rolling Mill and Factory Buildings. Fully equipped and in good condition. Price low. Payments easy. Apply on the premises or to

JOHN M. GWINNELL,

Newark, N. J.

Care of Estate of P. Hayden.

**FOR SALE.**

A new iron building for immediate shipment, 81 ft. wide, 200 ft. long, consisting of a main span 61 ft. wide, with lean-to on one side 20 ft. wide. The trusses are sufficiently strong to carry a line of shafting and light jib crane. This building is suitable for a Machine Shop, Tin Plate Mill, Rolling Mill, etc. For further information address

**SHIFFLER BRIDGE CO.,**  
 Pittsburg, Pa.

**Specialties Wanted.**

A manufacturer, whose line of tools is not equal to the capacity of his works, would like to add some new specialty tools to his present line. For further information address

"TOOL SPECIALTIES,"

office of *The Iron Age*, 96 102 Reade Street, New York.

**J. A. COLEMAN,**  
 Author Coleman's Mechanic's Liens in Illinois  
 Attorney at Law,  
 82 Hartford Building, Chicago.  
**MECHANIC'S LIENS EXCLUSIVELY,**

**WANTED.**

300 tons 40 lb. Steel T Rails for relaying, also second-hand S. G. 80-ton Locomotive.

**FOR SALE.**

One 8-inch Ericsson Hot Air Engine with deep well pump. New.

**G. W. SCHULTZ & CO.,**  
308 Walnut St., PHILADELPHIA.

**FOR SALE.**

At a bargain, a well selected stock of Hardware, including Tinners' Tools, Fixtures, etc. Located at East Grand Forks, Minn. Stock and fixtures will inventory \$4000. Splendid opportunity to buy an established business. Address

**F. W. PARSONS,**  
Duluth, Minn.

**WANTED.**

A second-hand Steam Hammer, modern design and good condition, 3½ to 5 tons drop. Also a strongly geared, heavily built lathe, 36 in. to 54 in. swing by 33 ft. bed. Give full particulars.

"STEAM FORGE,"

office of *The Iron Age*, 96-102 Reade St., N. Y.

**A Gentleman**

with best social connections, some capital and fifteen years' experience in iron commission, desires to form a new connection in some general line. Full particulars strictly confidential. Address

"IRON,"

P. O. Box 1088, Philadelphia.

**FOR SALE.**

One Westinghouse Standard Engine, 15 H. P., with boiler, 30 ft. of stack and all fixtures complete. All in first-class condition. Cheap. Address **PALMER & CAMP**, P. O. Box 44, Stoughton, Wis.

**FOR SALE.**

A well established retail Hardware business located in Brooklyn. Small competition. Well assorted stock of salable goods, consisting of general line of shelf and builders' hardware, house furnishing goods, etc. Will inventory about \$8000. Other business reason for selling. Address

"EASTERN," No. 618,

office of *The Iron Age*, 96-102 Reade St., N. Y.

**FOR SALE.**

Hardware Stock in a Northern Illinois town with about 1000 inhabitants. Stock and fixtures will invoice about \$3500. Good paying business for the right man. Other business in view object for selling. Located in the best farming section in the State. Address

"NORTHERN ILLINOIS,"

office of *The Iron Age*, 96-102 Reade St., N. Y.

**FOR SALE.**

Two 200 lb., one 80 lb. and one 40 lb. Bradley Cushioned Helve Hammers in first-class running order, also one Oil Pump in good condition. Apply

21 RICHMOND STREET,  
Philadelphia, Pa.

**FOR SALE.**

One second-hand four flued Boiler, size 38 inches in diameter, 18 feet long, in good condition, with stack and breeching. Price \$30 cash, f.o.b. cars, New Castle. Must be sold for want of use and storage. Address **VULCAN IRON COMPANY, Ltd.**, New Castle, Pa.

**Metal Rolls for Sale.**

We have a set of Brass or German Silver Rolls, 18 x 24, made by Farrell Foundry Co., in perfect order, which we have no use for and will sell at a low figure. Address

**THE WILLIAMS BROS. MFG. CO.,**  
Naubuc, Conn.

**I DESIRE TO DRAW** the attention of capital to a copper-silver mine and to a group of copper-silver mining claims, close to Butte, Montana, which is the greatest copper producing section of the world. The mine has a great deal of ore in sight and could, it is believed, be made immensely profitable were a concentrator erected on it. The terms upon which investors can secure some of these properties are believed to be wonderfully reasonable. **JOHN C. HENDERSON**, 213 North Idaho St., Butte, Montana.

## Special and Peremptory Trade Sale of Granite and Blue and White Wear, E. Bissell, Son & Co.,

**AUCTIONEERS,**

Tuesday, August 21, 1894, at 10 o'clock,  
At Nos 12 Murray St. and 15 Park Place, N. Y.  
BY ORDER OF

**THE ST. LOUIS STAMPING CO.,**

Fifteen Hundred Cases of Granite and Blue and White Ware Seconds, on sixty days' time for approved notes. Also 250 cases first quality Granite Ware, discarded numbers. Also 75 assorted cases in open lots. Also 50 dozen Solid Steel Market Cleavers, assorted, 6 to 14 inch. This will be the opening Trade Sale of Enamelled Ware for this season, and will include a full assortment of tea and Coffee Pots, Dish Pans, Wash Basins, Lipped Preserving Kettles, Chimney, Convey, Berlin and Lipped Sauce Pans and Pots, Milk and Pudding Pans, Buckets, Tea Kettles, &c., &c.

The entire catalogue, together with duplicates, will be sold, packed ready for shipment, without any reserve and in quantities to suit the Jobbing Trade, Department Stores and Retail Trade.

The goods are all in store and ready for immediate shipment and buyers who handle Enamelled Ware should not fail to attend this sale.

Wednesday and Thursday, Aug. 22d & 23d,  
AT TEN O'CLOCK EACH DAY,

Large, Special and Peremptory Trade Sale of Table and Pocket Cutlery, Silver Plated Ware, &c. Comprising in part several thousand dozen Table Knives and Forks, and Knives only. First quality, discarded Numbers and Seconds, desirable patterns. Also Carvers and Butcher Knives and Razors. Also about 1000 dozen American Cast Steel, Nickel Plated Scissors and Shears, American Pocket Knives, Fine Silver Plated Tea and Table Spoons and Forks, extra plate, on 18 per cent. Nickel Silver. Also a line of Rogers' Silver Plated Medium Knives, &c.

Also by order of

Mr. Joseph W. Kenney, Administrator,

To Close the Estate of

Mr. Henry Kenney, deceased,

The balance of his stock, comprising in part, about 1000 dozen Silver Plated Tea and Table Spoons, Medium Knives and Forks, Butter Knives, Sugar Shells, &c., &c. Also about 800 dozen Table Knives and Forks, Carvers, Butcher Knives, &c. The assortment of Goods to be sold at this Sale will be large and desirable, and well worthy the special attention of the Jobbing and Retail Trade and Department Stores.

The above sales absolutely without reserve. Catalogues will be sent to parties who desire them, as soon as ready.

## TO LET FOR MANUFACTURING USES.

At South Easton, Pa., on line of Lehigh Valley Railroad and on Lehigh Canal. Sidings in buildings. Electric light. Electric street railway. One main 2-story building, 275 ft. x 45 ft. Steam Engine, Shafting and complete appurtenances for first-class factory or machine shop. One high 1-story building, 80 ft. x 45 ft. Cement floor. One 2-story building, 35 ft. x 45 ft., ground floor suitable for smith shop, etc.

These buildings were erected for galvanizing and barb wire plant, and more recently, for several years, have been in the occupancy of The National Switch & Signal Co. They form part of the plant of The Stewart Wire Co., being separated from its main plant by the Lehigh Canal. Affords a most desirable opportunity for industry using wire in any of its forms and is an exceptionally fine location for manufacture of any character.

Will be let in whole or in part, with or without the adjacent thoroughly equipped and complete Wire Drawing Mill, steam and water power, situated on same side of Canal. For further particulars address

**THE STEWART WIRE CO.,**  
Easton, Pa.

BY ORDER OF THE CIRCUIT COURT OF Floyd County, Indiana, the undersigned offer for sale as an entirety the plant and property of the New Albany Rail Mill Company, at New Albany and Alexandria, Indiana. Said property will not be sold for less than the appraised value, \$97,709.12. Information and terms will be given on inquiry.

**THE UNION TRUST COMPANY OF INDIANAPOLIS, IND.,**  
Assignee New Albany Rail Mill Company.

**A BARGAIN.**

A fine business opportunity for a live business man or two partners who have \$25,000 to invest in a first-class, old, well established and well located jobbing and retail Hardware business, which did not lose money last year. Stock is well assorted. Good location in large Eastern City. Reasonable lease of premises can be continued. This will bear full investigation. Parties who can command above amount of capital address

"BARGAIN," Box 815,

office of *The Iron Age*, 96-102 Reade St., N. Y.

**Chicago Storage Warehouse.**

General merchandise storage, with desk room if wanted, situate in wholesale district.

Apply to

**C. P. SHERWOOD,**  
294-300 Franklin Street,  
Chicago, Ill.

**FOR SALE,**

in one of the best agricultural and fruit growing sections of California, a general stock of Hardware, Agricultural Implements, Stoves, Tinware, &c. Stock will now invoice about \$30,000, but can be reduced. Best of reasons for selling. Inquire of

**W. M. MONTAGUE & CO.,** or **DUNHAM, CARRIGAN & HAYDEN CO.,** San Francisco, Cal.

**EXECUTOR'S SALE**

of Hardware, Plumbing and Metal Working business to close estate of late James G. Burt. Business established twenty years. Stock and fixtures \$20,000 to \$25,000. A rare opportunity for investment in paying business in "Sunny California." Address

**D. A. MOULTON, Executor,**  
San Bernardino, Cal.

## FOR SALE HOISTING ENGINES

MANUFACTURED BY  
**THE JOHN F. BYERS MACHINE CO.**  
RAVENNA, OHIO.

WRITE FOR CATALOGUE.

**"Expert"** has been defined—by some incendiary: "One who is prepared to prove anything for a satisfactory consideration." Co-incidentally, it is a significant fact that the SELF-CONFESSED "ADVERTISING EXPERT" has recently become extinct, and gives promise of remaining so. The quondam "Expert," with a unanimity worthy of note, now limits his claims to simple OMNISCIENCE, or to a fair-minded blending of OMNISCIENCE with OMNIPOTENCE. So much for the absurd.

For obvious reasons I am not an "Expert," while a very mild type of OMNISCIENCE will instantly recognize the absurdity of any claims I might advance to such an attribute.

Treating of Advertising matters, I have issued two publications—rather more perhaps than circulars, considerably less than books, neither of them works of genius, both of them obviously and avowedly FINITE.

Number 2—treats of the Trade Circular; Number 9—of some phases of Newspaper and Periodical Advertising. Both will be mailed to those whose longings for light would seem to warrant the sending of five 2-cent Postage Stamps to the subscriber.

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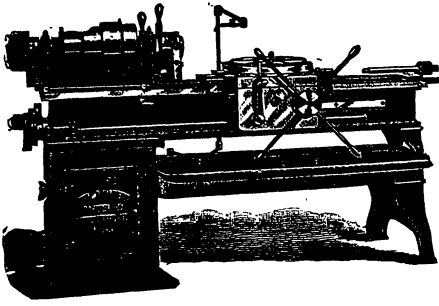
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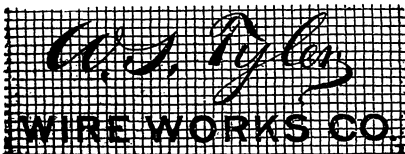
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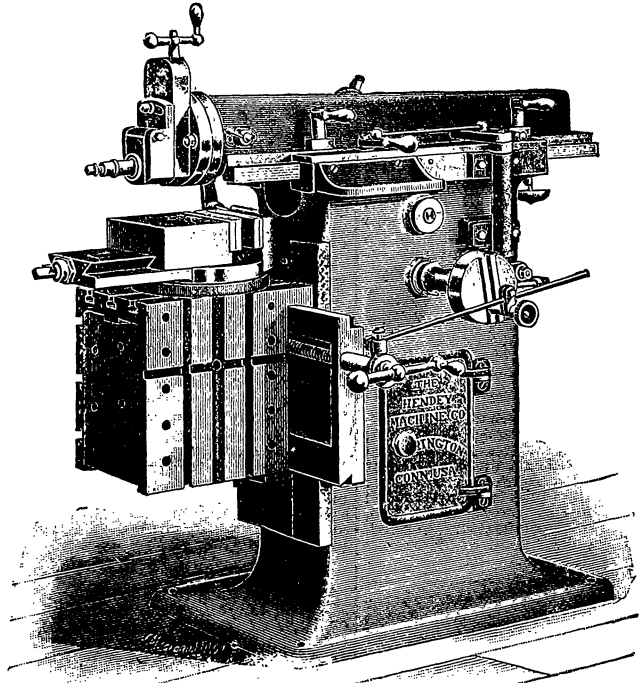
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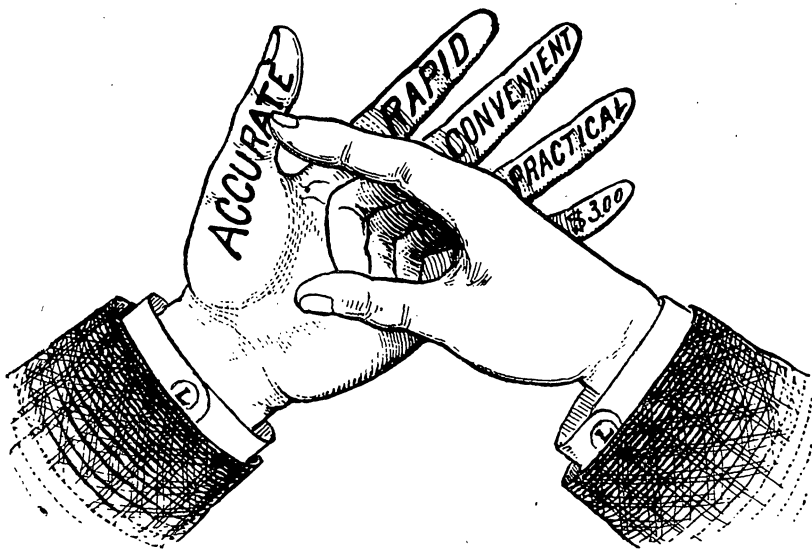
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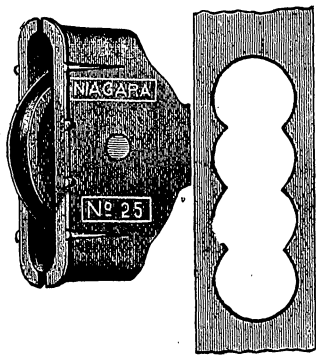
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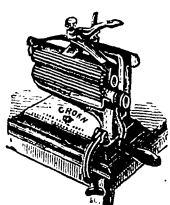


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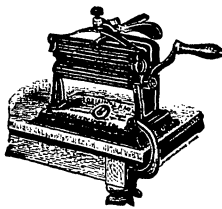
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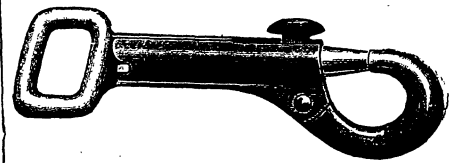
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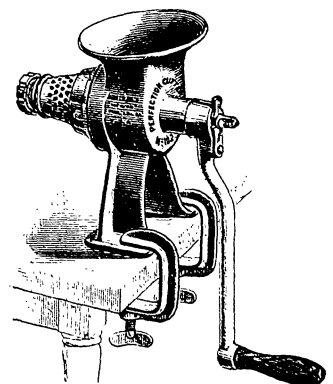


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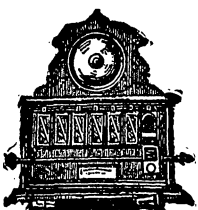
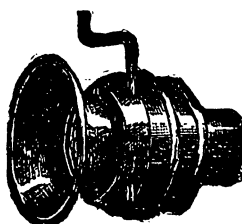
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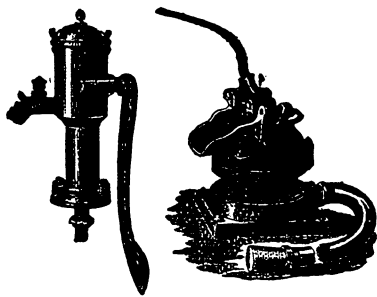
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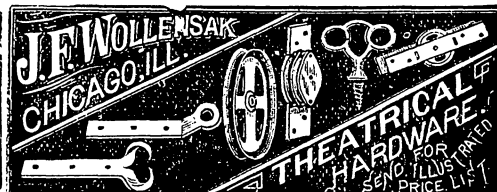
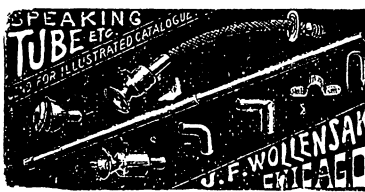
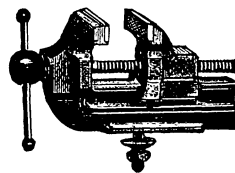
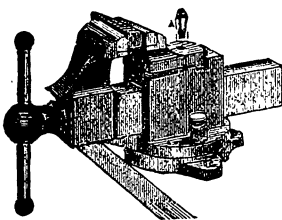
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The New York Safety Dumb Waiter.  
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Made specially to be sold by Hardware Stores.  
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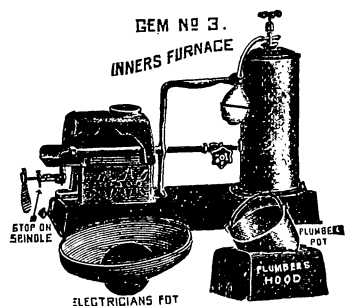
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cannot be worked out of doors or on roofs in all kinds of weather, bring it back and your money will be refunded.

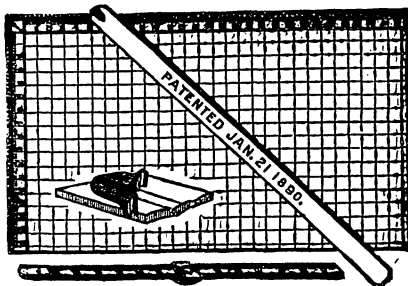
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All have cast iron cylindrical burners so arranged that solder cannot clog them.

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Cuts any Fraction of an Inch by Eighths.

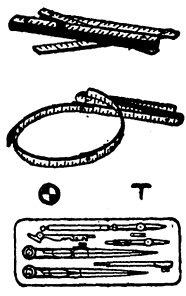
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From 3 inches up to 48 inches, Segments,  
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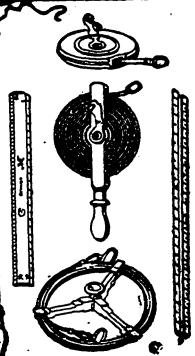
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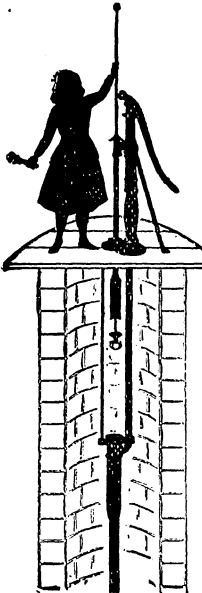
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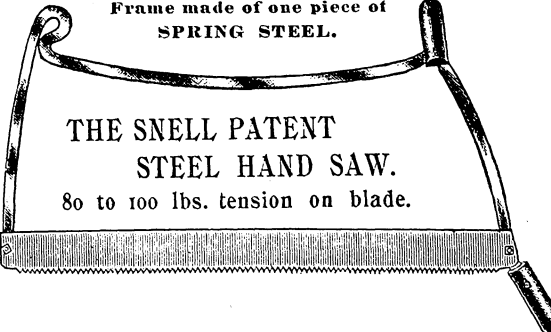
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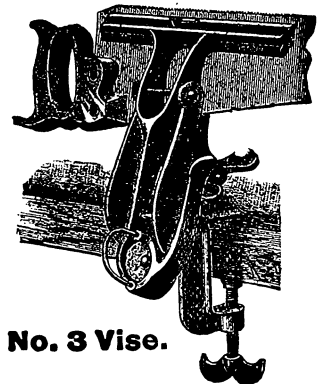
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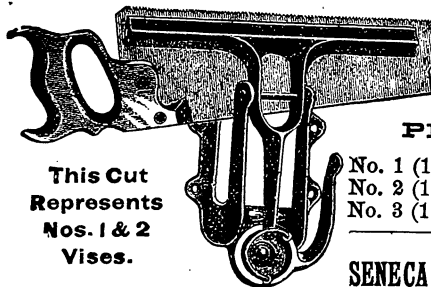
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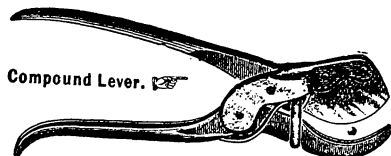
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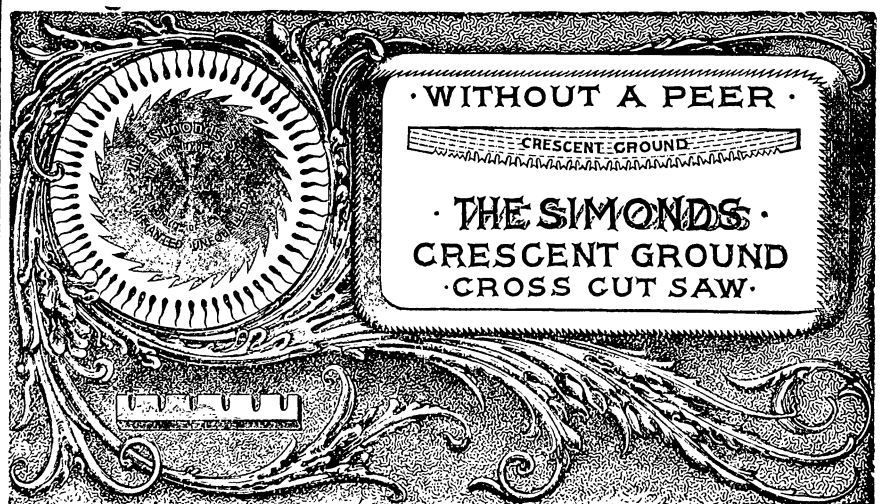
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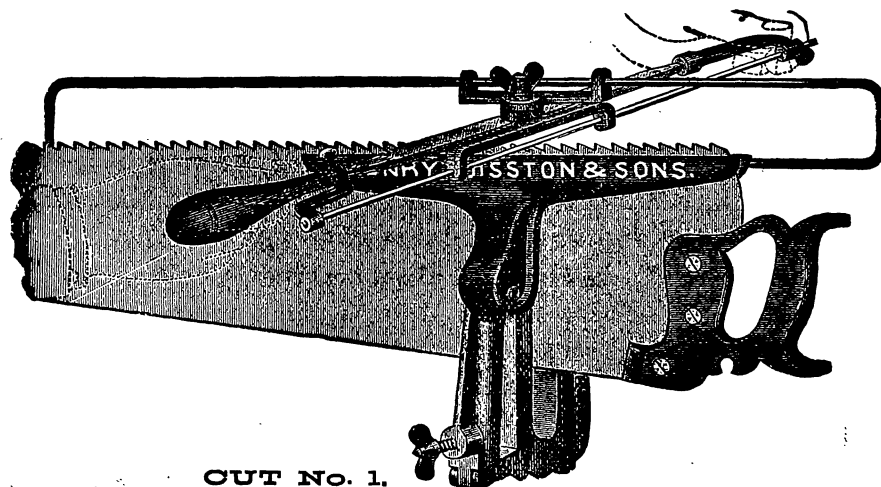
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CRESCENT GROUND  
· CROSS CUT SAW ·

Simonds Mfg. Co. Simonds Saw Co.

FITCHBURG, MASS. CHICAGO, ILL. SAN FRANCISCO, CAL. PORTLAND, ORE.

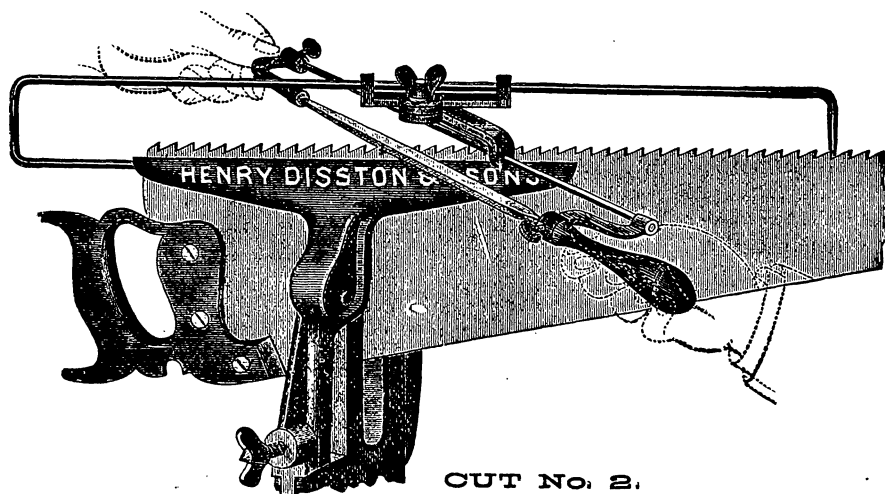
# DISSTON'S Improved Saw Clamp AND FILING GUIDE.

ESPECIALLY DESIGNED TO ASSIST THOSE NOT SKILLED IN THE ART  
OF SAW FILING TO FILE A SAW CORRECTLY.



CUT NO. 1.

Cut No. 1 shows a saw and the attachment in proper position for filing the first side; and Cut No. 2 shows the saw and attachment reversed and in position to file the second side. There are three marks on one of the hubs of the swivel attachment, and one mark on the other. One of the three marks shows when it is in position No. 1, and the other designates when it is in position as shown in No. 2. The third, or centre, marks show when it is in position for filing Rip Saws.



CUT NO. 2.

To obtain the correct position, loosen the wing nut and move the guide around to the point desired; after tightening wing nut, loosen screw in file handle, then turn handle until file gives the shape tooth wanted.

A good way is to select a tooth of correct shape and let file down into it, tighten set screw in handle, then file a tooth to see if the shape suits. If not turn the file a little to the right or left and try another tooth until the proper shape is obtained. Then file every other tooth, see cut No. 1; when one side is filed, reverse saw and attachment and adjust as in No. 2, and file the other teeth. For Rip Saws, place the file at right angles with the saw and file every tooth. Always keep the file as nearly horizontal as possible.

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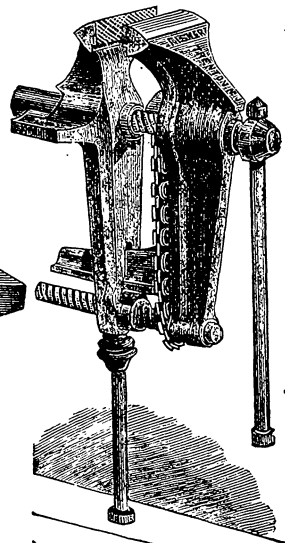
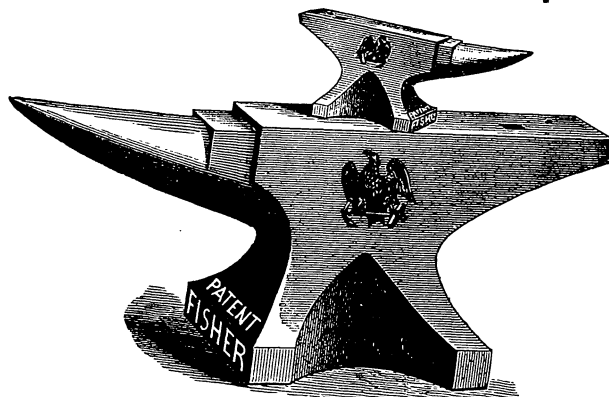
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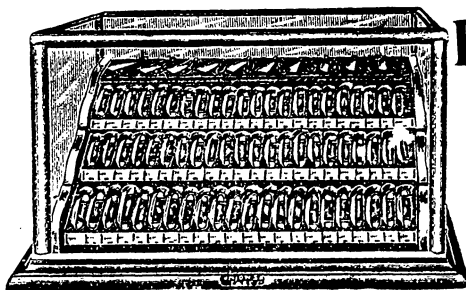
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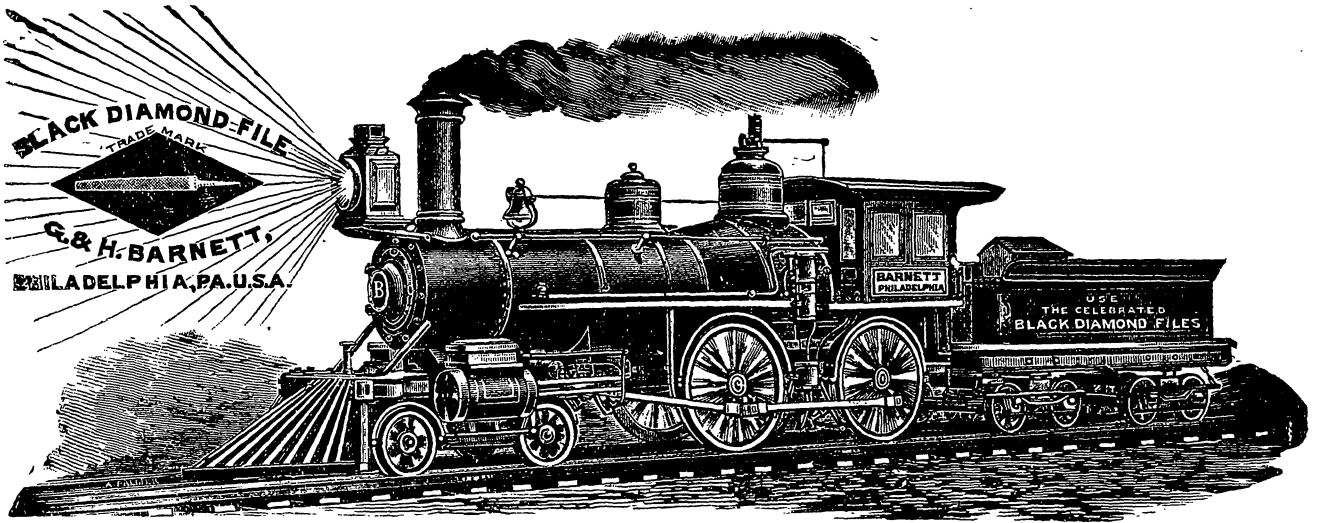
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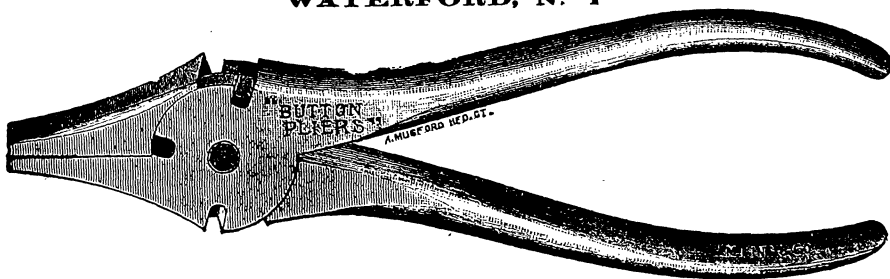
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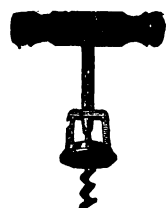
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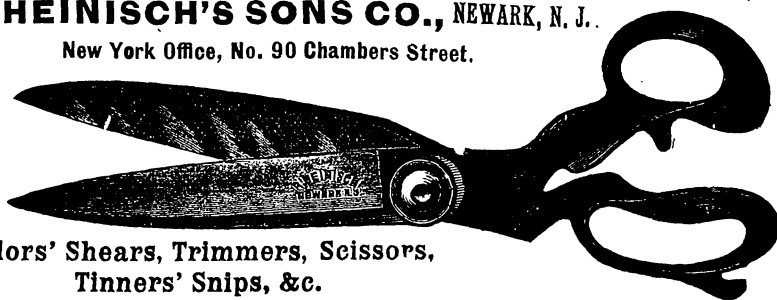
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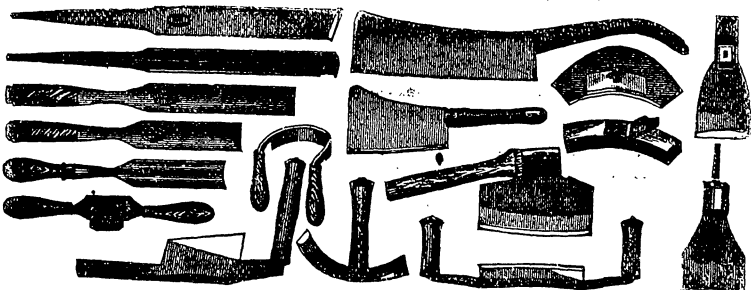


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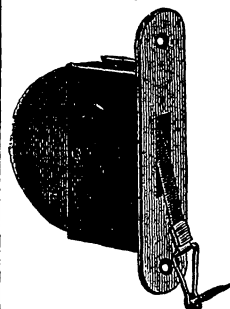
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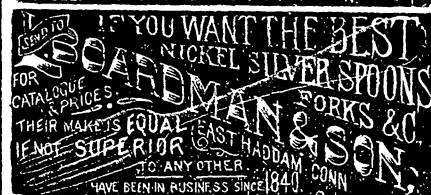


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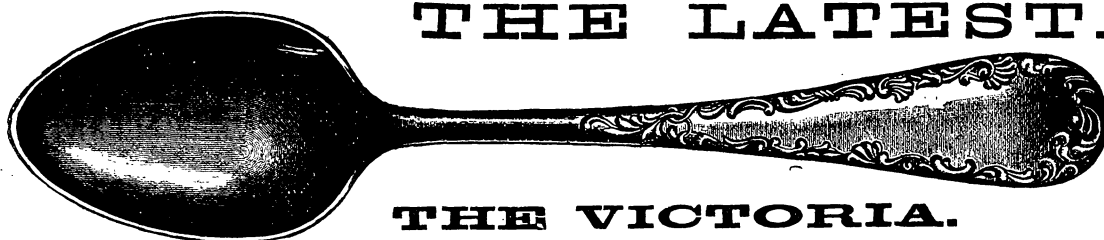
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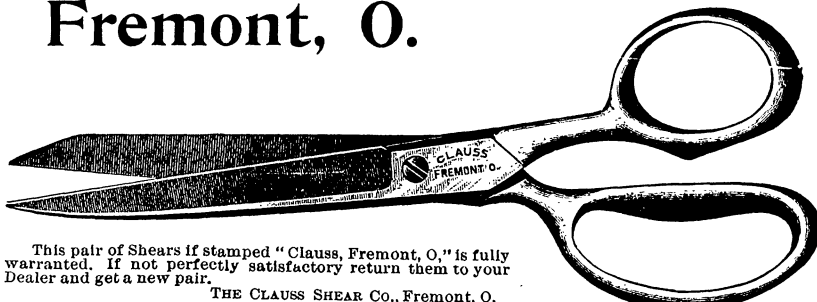


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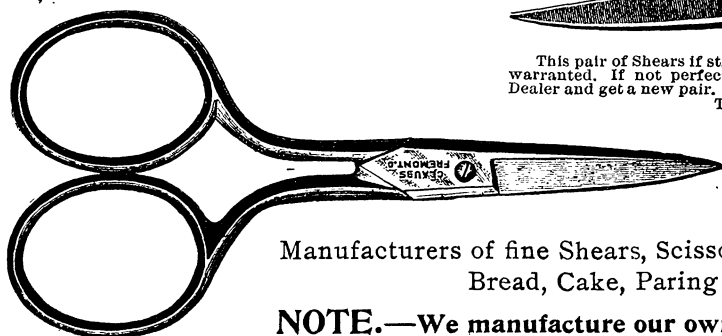
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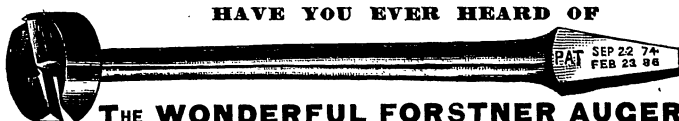
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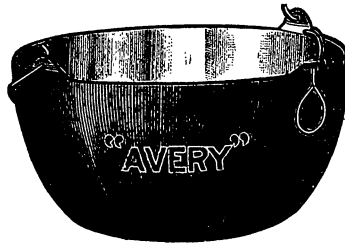
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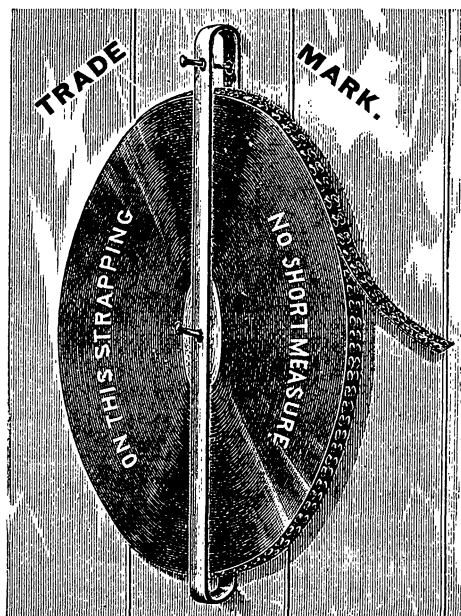
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Pat. Dec. 13, 1887.



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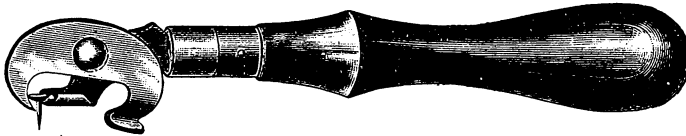
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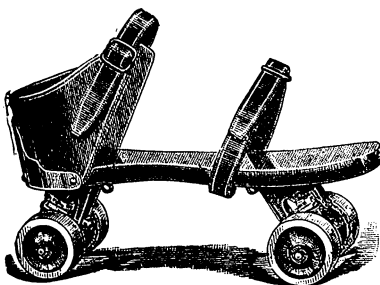
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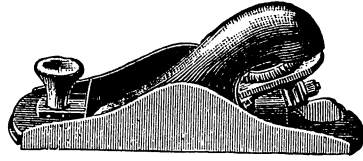
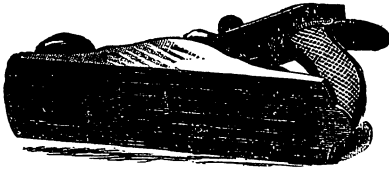
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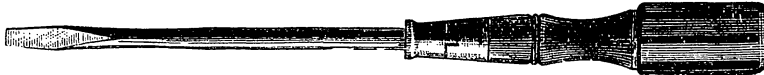
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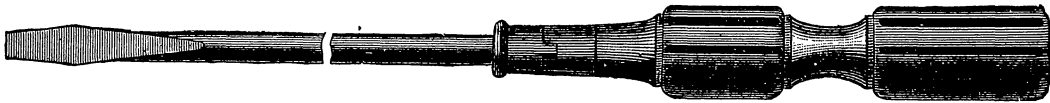
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the Best  
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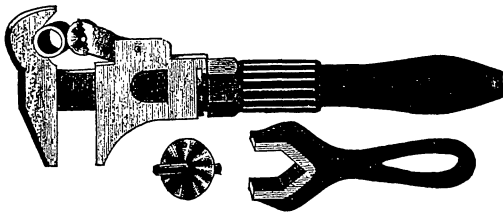


CHAMPION SCREW DRIVER.

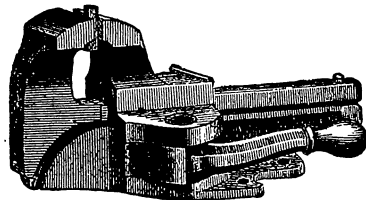


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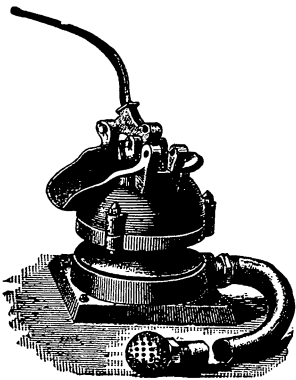
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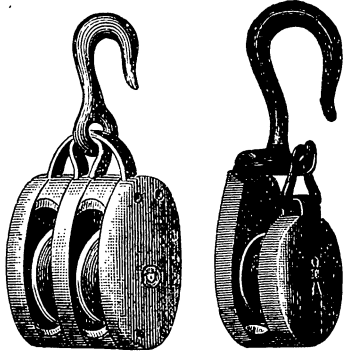
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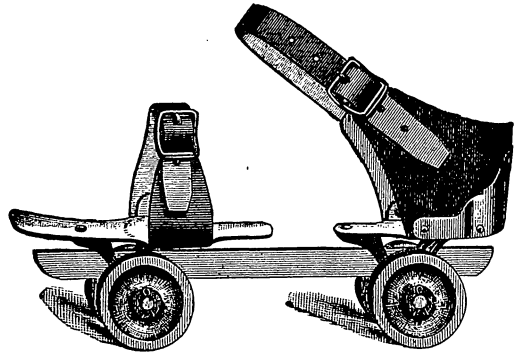


Loud's Patent

SUCTION PUMPS.. TACKLE BLOCKS.

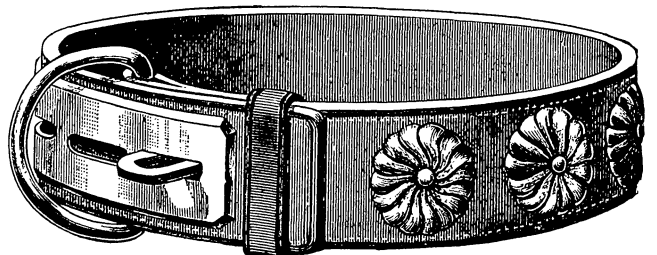
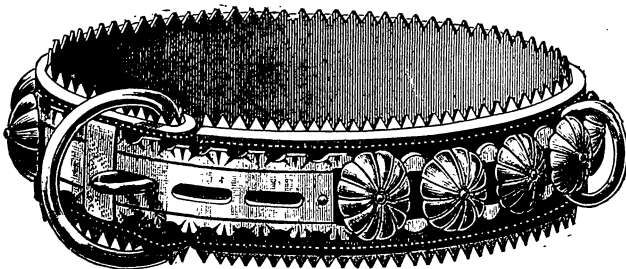


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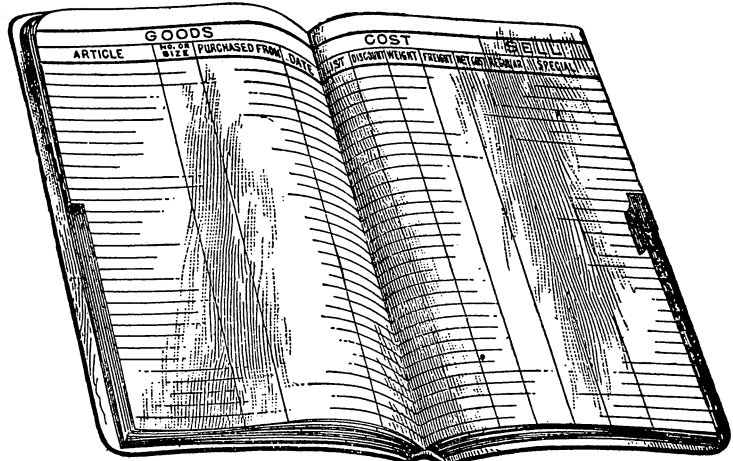
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Columns are provided for the name and number or size, for noting from whom purchased, date of quotation or purchase, list and discount, and for entering freight expenses as an element of cost. Under the heading of selling prices, the regular and any special price, or remarks in regard to the goods are given place. This book goes into considerable detail in describing the goods and cost prices. It has been arranged in accordance with the views of many Hardwaremen whose methods are careful and exact.

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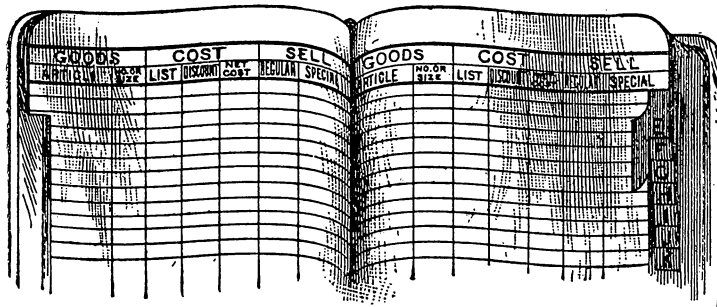
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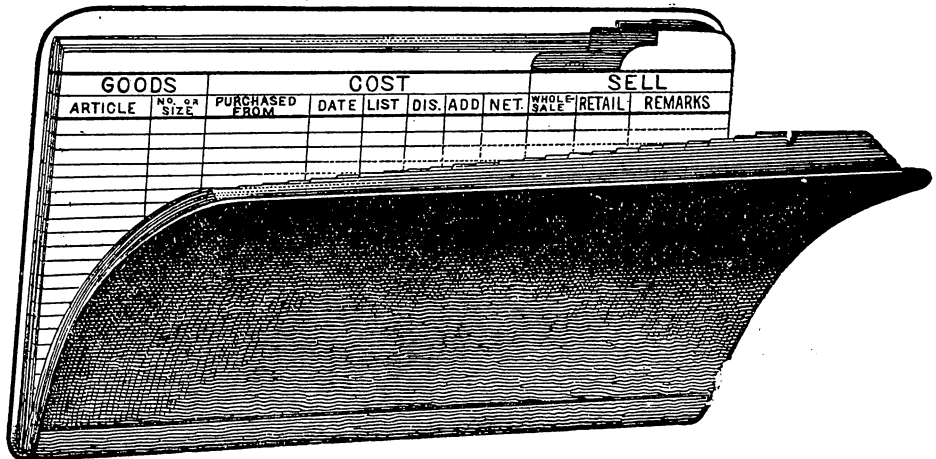
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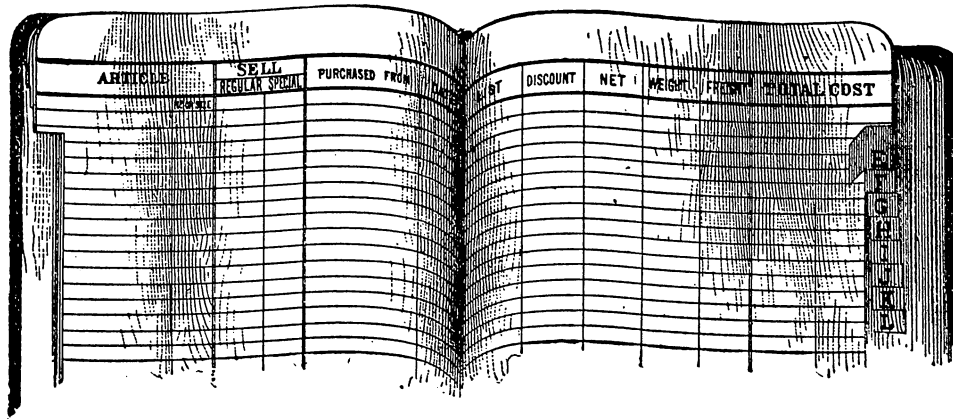
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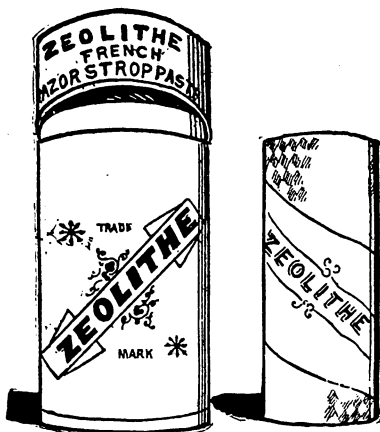
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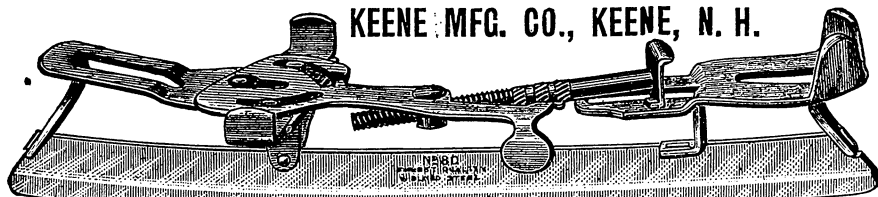


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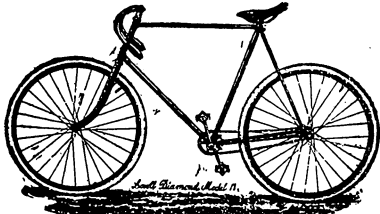
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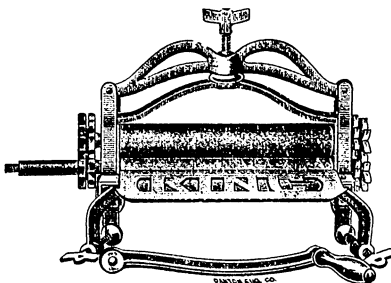
And Premier Double Action, Rebounding  
Lock,  
In 32 and 38 Caliber.

All the above 32 Caliber take the H. & R. LONG or  
S. & W. Short C. F. Cartridges.

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**HARRINGTON & RICHARDSON ARMS CO.,**

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We are Sole Manufacturers of the  
Celebrated Erie and King Wringers.

We also make all other brands of Wood and Iron  
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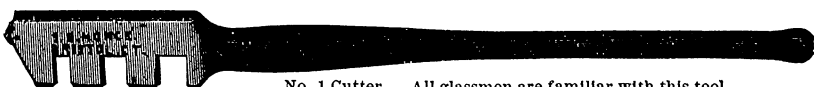
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given to one dealer in each town.

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**MONCE'S NOVELTY GLASS CUTTERS. — INTERCHANGEABLE LOCK STENCILS.**



No. 1 Cutter. All glassmen are familiar with this tool.

**S. G. MONCE, BRISTOL, CONN.**



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If you deal in ARMS or AMMUNITION or shoot a  
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Please mention *The Iron Age* when you write.



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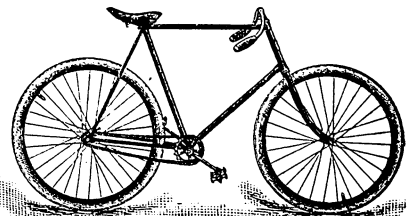
Are you in the bicycle business? If not, you can make it pay to handle Clippers. Buy direct from the manufacturer and save the jobbers' profit. It will add considerable to your bank account. We want responsible dealers only. We may be able to interest you, in fact we are sure of it. Our policy is a protective one, and will please you. It protects against Scalpers and "Curb Stone Brokers."

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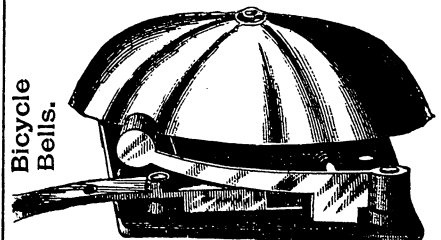
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THAT'S THE WHEEL!



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Water Motors, Self-heating Sad Irons and Soldering Irons, Combination  
Electric Fan Water Motors, Ventilating Fans and Ventilated Bread Boxes.

Send for Illustrated Catalogue with Wholesale Price List.



## NEW WATER MOTOR, \$5

BOLGIANO'S LITTLE GIANT, No. 1,  
Will run your Sewing Machine, Fans and other Light Machinery.

A Week's Work  
Done in a Day.  
No Plumbing  
Required.

LIVES ON WATER.  
DOES THE WORK OF A MAN.  
WONDERFUL LABOR SAVER.

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## \$2.

### Bolgiano's New Air Burning Soldering Iron.



(Patent applied for.)

Saves tons of coal. Burns air. Without smell or dirt.



## \$2.

BOLGIANO'S

Wonderful New Air Burning Iron.

Saves Tons of Coal.

Burns Air.

Without Smell or Dirt.

Keeps the Room Cool.

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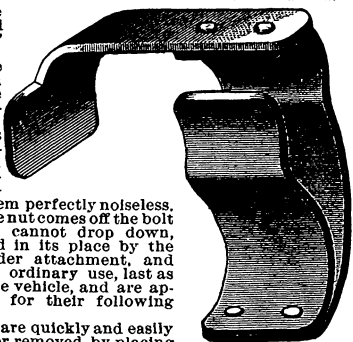
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In the Improved "Acme" Anti-Rattler we offer an article that effectually prevents any rattling in the coupling, rendering them perfectly noiseless. In case the nut comes off the bolt the thill cannot drop down, being held in its place by the Bolt Holder attachment, and will, with ordinary use, last as long as the vehicle, and are appreciated for their following merits:

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5. By their use much annoyance is avoided, and very often valuable time saved.

Ask your jobber for them or send to  
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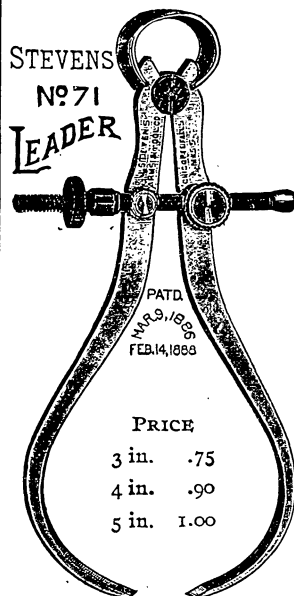
**The Practical Catechism.** A collection of questions on technical subjects, by manufacturers and others, and of answers thereto. By ROBERT GRIMSHAW, M.E., Ph.D. Treating of Miscellaneous engineering questions, and touching upon physical science, chemistry, etc. GENERAL TOPICS: Properties of Air; Alloys; Beams; Belts; Bricks; Building; Building Stones; Calculations; Cements; Chemical Processes; Coloring Metallic Objects; Combustion; Disinfectants; Fastenings; Fluxes; Foods; Foundry Practice; Fuels; Gas; Gear Wheels; Gravity; Hardening; Tempering and Annealing; Heating; Hydraulics; Iron and Steel; Limes, Mortars and Cements; Locomotives; Lubrications; Mechanical Processes; Metals in General; Millwrighting; Paints; Oils and Varnishes; Plants; Power; Railways; Ropes; Saws; Shafting; Solders; Strength of Materials; Sugars; Temperatures; Timber and Trees; Ventilation; Waters; Weights; Wines; Work Miscellaneous. 297 pages, cloth.....\$1.25

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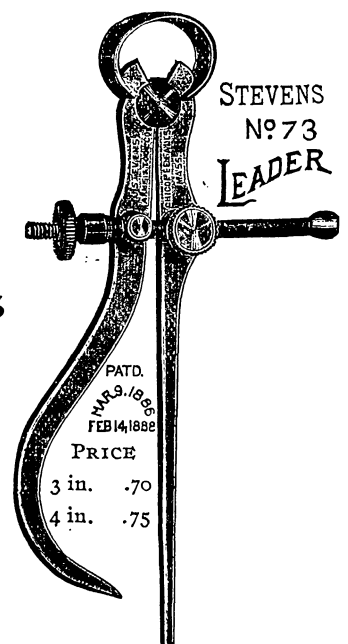
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Arms &  
Tool  
Co.,

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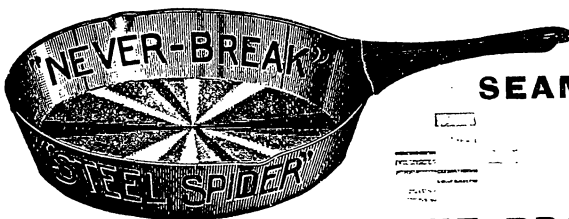
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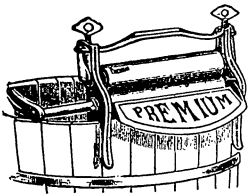
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Light your Streets and Driveways.

The S. G. & L. CO.

## Tubular Globe

## Street Lamp

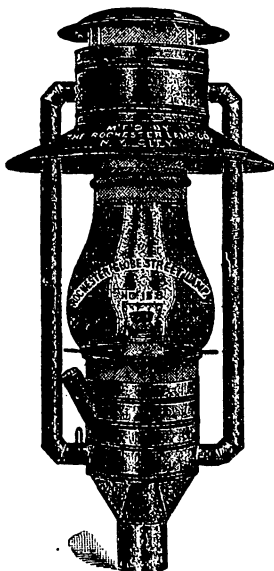
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Will Burn Four Hours for One Cent.

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## The Rochester Globe Tubular - - Station and Street Lamp.

It's a long name, but it tells a good deal. It tells you of a new Street Lamp with "The Rochester" Central Draft Burner. A central draft burner (round flame) gives three times the light of an old style flat-wick burner. The first and only Tubular Globe Central Draft Lamp ever made! Storms, rain, snow, sleet or hail do not affect it. Burns all night. Made with either bail or post socket, with 26 inch enamel reflector if wanted, for railroad and other uses. Takes regular No. 3 or 9 street lamp globe, to be had everywhere. For Railroad Stations, Ware-rooms, Mills, Docks, &c., it is the best lamp ever made. Price, \$6.00; send for trade discount.

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## This is the "SALEM" HANGER.

And when it is on the window casing, a TEN-ANT can put up ANY SHADE FIXTURE that is made without using a screw. THE MAN INTERESTED is the owner of the house. THE MAN to sell the "Salem" to the owner IS THE HARDWAREMAN.

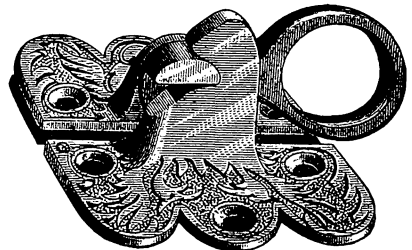
Write us for Price-List.

The W. A. South Co., Salem, Mass



"CONROY"  
Refrigerator Door Fasteners

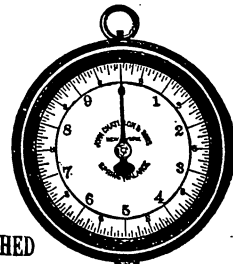
Have rapidly supplanted all others.  
Refrigerator Trimmings.



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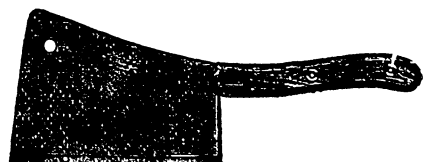
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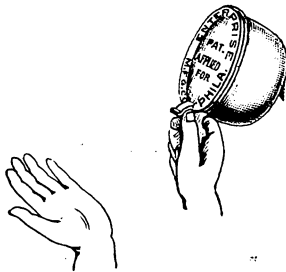


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For Making Snow Balls, Iced Drinks, &c.  
(FLAVORED.)

For Sale by the Trade.

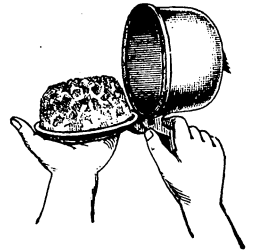


Street vendors are making from three to five dollars per day selling

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Send for Catalogue, Free.



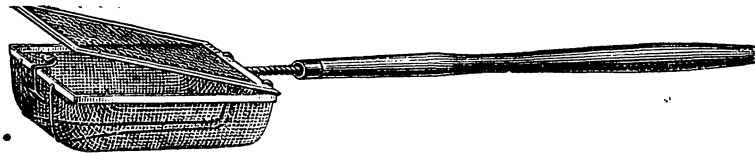
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THE ENTERPRISE M'FG CO. of Pa.,

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Our styles of Corn Poppers are guaranteed to be all of the latest and best.

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Dealers everywhere are entitled to New Catalogue and New Prices.

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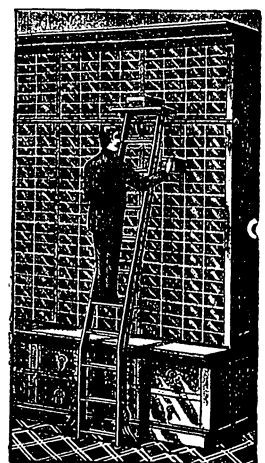
HAS STOOD  
THE TEST  
OF OVER  
FIFTY YEARS

The CHAS. PARKER CO.  
MERIDEN,  
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This is a fac-simile of an 11x15 inch show card in gold and colors which is attractive in every hardware store. We will mail one to any hardware dealer who will place it conspicuously in his store.

## THE Bicycle Step Ladder.

Especially adapted for  
Hardware Stores.



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NEWEST,  
NEATEST,  
SIMPLEST,  
EASIEST OPERATED,  
and SAFEST



----- STORE LADDER MADE.

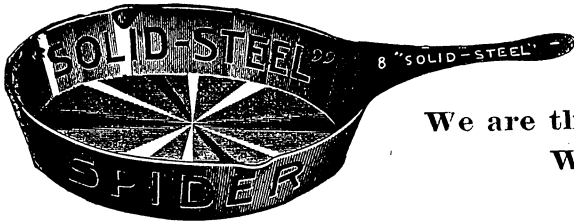
Highest Award World's Fair.

WRITE US.

The Bicycle Step Ladder Co.,

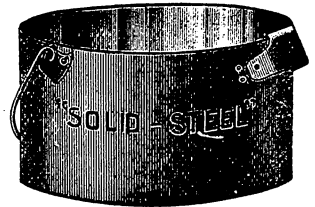
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No Seams, no Rivets in "Solid-Steel" Ware.

We are the leaders in Steel Hollow  
Ware and all Sheet  
Metal Work.



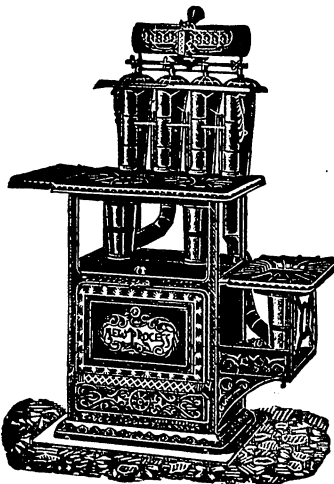
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**The Cleveland Stamping & Tool Co., Cleveland, O.**

**We do Light and Heavy Stamping and Blanking. Also build Dies and Stamping Machinery.**

**Cooking Made Easy!**

—BY THE—

**"New Process" (Evaporating) Stove****LIGHTS LIKE GAS.**

Consumes less gasoline than any other vapor stove made. No waste when not cooking. No heat when not in use. No overheated kitchen.

More than a quarter million in use in the United States.

More than 20,000 enterprising dealers selling them.

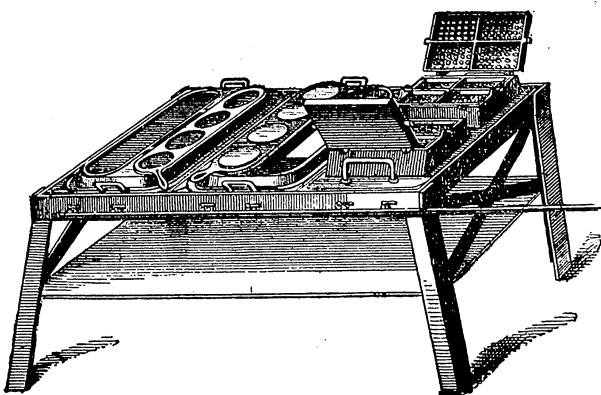
Bakes Better and Costs less than any Coal or Wood Range.

Saves both Time and Money. No Soot, no Dirt, no Ashes.

Send for Illustrated Catalogue, giving full particulars to

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**NEW S. & P. ACME CAKE GRIDDLES****FOR GAS.**

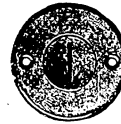
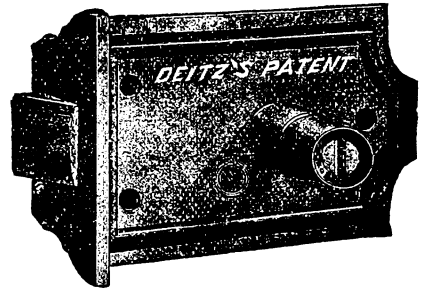
FOR USE IN

**Hotels, Restaurants  
Eating Stands,  
Etc.**

CIRCULARS AND PRICES ON  
APPLICATION.

THE

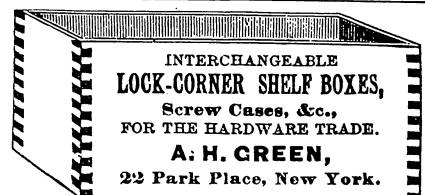
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Burlington, N. J., U. S. A.**

**A. E. DEITZ**

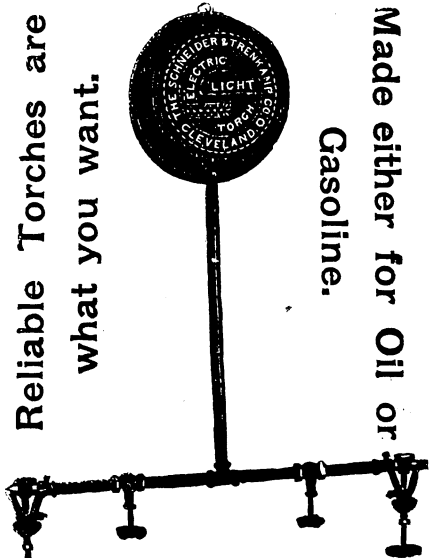
No. 109 Lock.

**J. C. McCARTY & CO., Agents,  
97 Chambers and 81 Reade Sts., New York.**

Factory, **BROOKLYN, E. D., N. Y.**

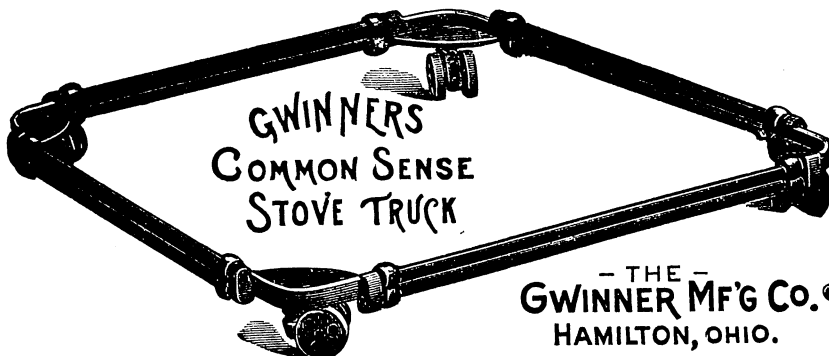


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what you want.



Made either for Oil or  
Gasoline.

These Torches are particularly adapted for use in Factories, Foundries, Machine Shops, Rolling Mills, Blacksmith Shops, Warehouses, &c. They make a strong white light, are free from smoke and are not affected by wind or rain. They are convenient and portable. These Torches can be run at an expense of about one-half cent to one cent per hour, burning a bright, steady light which is ten times greater than the light of an ordinary gas burner. Write us for prices. A liberal discount given to the trade. Manufactured by  
**THE SCHNEIDER & TRENKAMP CO.**  
Nos. 479 to 497 Case Ave., Cleveland, Ohio.



— THE —  
**GWINNER MFG CO.**  
HAMILTON, OHIO.

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**W**E ARE the originators of a combined Show Case and Money Drawer for which we have applied for patent, and our attorneys assure us that our invention is novel and that we will be allowed clear and broad claims and a valid patent.

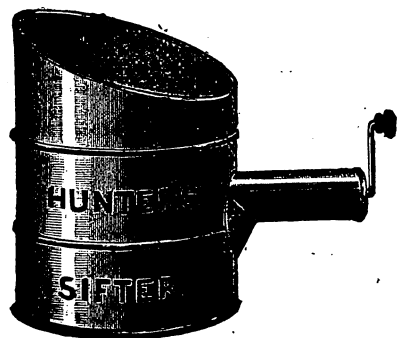
We therefore CAUTION all persons to not buy or sell said Combined Show Case and Money Drawer excepting those bearing our name plate. We will prosecute all offenders for infringement and damages soon as our patent is allowed, and thus resent the outrageous attack on our business.

We are also the originators of a certain line of Coffee Mills, Money Drawers and Rat Traps and are selling these goods at "hard pan" prices.

When in the market kindly write us.

## WADDEL WOODEN WARE WORKS, GREENFIELD, OHIO.

# More About Sifters.



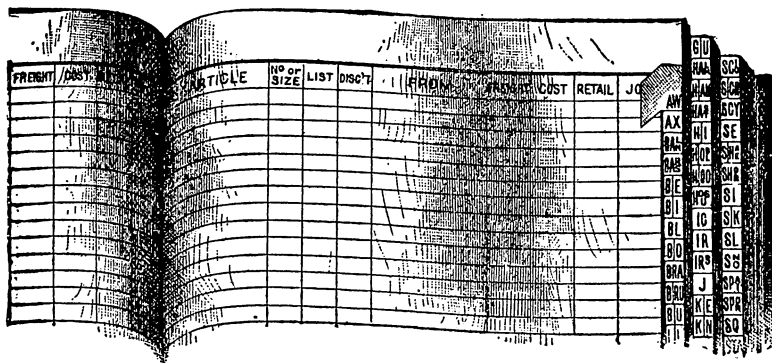
If you are not handling the best (there's only one best made, that's the Hunter), we want to make you a proposition that will be satisfactory to you and profitable to both. Will you send us your address and let us submit the proposition? If so, do it at once, please; it's best.

**The FRED. J. MEYERS MFG. CO.,**  
**HAMILTON, O.**

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# The Iron Age Hardware Price Book E.

SECOND EDITION, REVISED AND ENLARGED, WITH MULTIPLE INDEX (Patent Pending).



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AN HAL<sub>M</sub> SCR  
AU HAN SCY  
AW HA<sub>T</sub> SE  
AX HI SH<sub>E</sub>  
BA<sub>N</sub> HO<sub>L</sub> SH<sub>R</sub>  
BA<sub>S</sub> HOO SI  
BE HQ<sub>S</sub> SK

*Fac-Simile of Indexing.*

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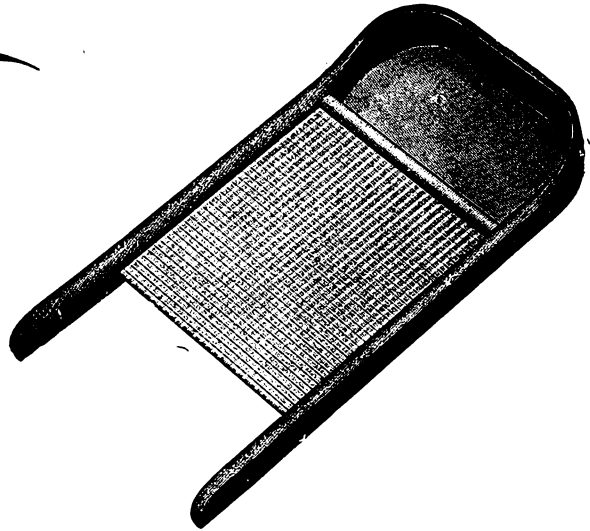
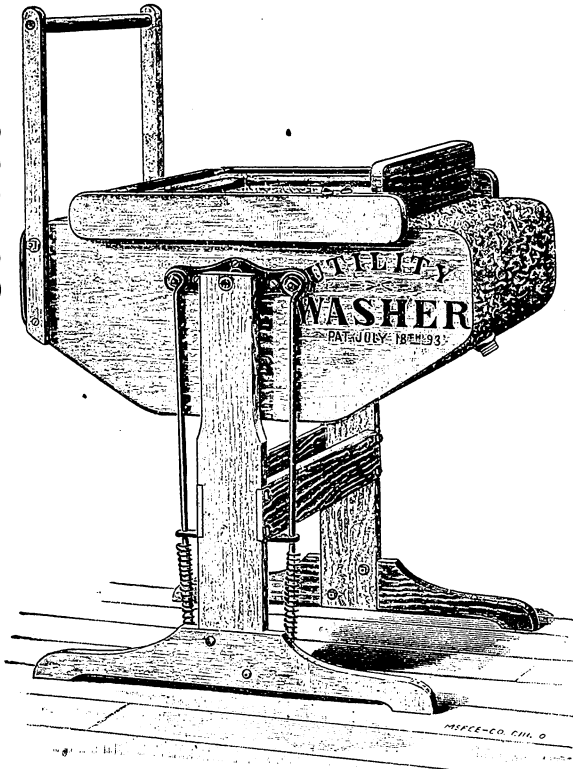
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# Utility



## Washer and Board

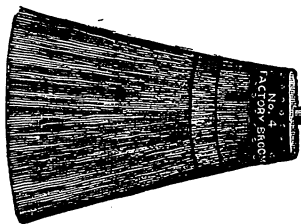
Your customers can get along without both, but neither separately. The washer has the peculiarity of washing the clothes clean and not wear out either it or the operator. While the board is something entirely new yet thoroughly tested and proven the best made. Write for prices, please.

**Olds Wagon Works,**  
Fort Wayne, Ind., U. S. A.

## No. 4 FACTORY CORN BROOM.

Designed for light work in Woolen, Cotton, Knitting, Cloth and Yarn Mills, and for purposes where a light, strong, cheap and good

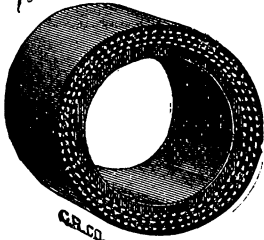
**JOS. LAY  
& CO.,**  
RIDGEVILLE, IND.



sweeping broom is required. It has been thoroughly tested in the above mentioned establishments, and has proven to be the best ever made. Consumers should give them a trial. The increased wear they will stand will repay the investment. We also make a full line of

Brooms for other purposes, and Brushes. Write for prices.

NEW SEAMLESS TUBE



## Who Has Not Had Bad Hose ?

Who has not lost time, patience, money, by attempting settlement for such goods ?

**THE CAUSE** in nine cases out of ten is the lapped seam.  
**THE REMEDY** is in buying our

### PATENT SEAMLESS TUBE HOSE,

made by machinery, the tube run like lead pipe, through a die. There is no lapped tube, no seam, no cracks, no defects; water cannot get through to rot the duck and cause the hose to burst.

Made in All Sizes and Kinds of Garden, Engine, Steam, Fire, Brewers,' Cotton Hose, &c.

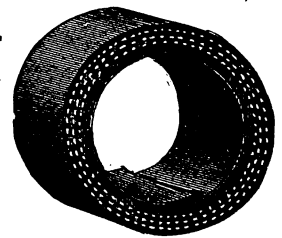
Order a Sample Bale of our Seamless-Tube Hose—Best in the World, costs no more than ordinary lapped-seam hose. The different colors, Red, White, Black, Green and Yellow, make a fine window or sidewalk attraction.

## CLEVELAND RUBBER WORKS

of the Mechanical Rubber Co.,  
CLEVELAND, O.

Makers of Mechanical Rubber Goods, Clothing, Druggists' Sundries, Specialties, Etc.

OLD LAPPED TUBE



We were awarded an order for 25,000 ft. for World's Fair of our celebrated  
**Seamless-Tube**  
COTTON RUBBER-LINED HOSE

**We Want Your Trade.**  
Send for 60-page Catalogue.  
Write for Prices and Samples.

**SALES OF**  
**Over Two Million Feet**  
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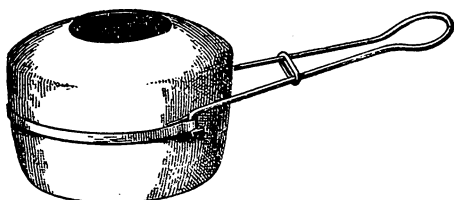


Fig. 108.—Clamp for Holding Tea-Kettle while Being Tinned.

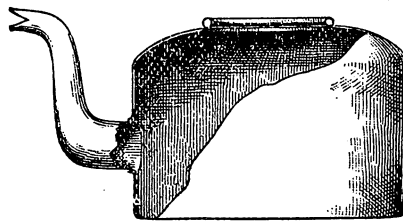


Fig. 110.—Tea-Kettle, Showing Spout Attached.

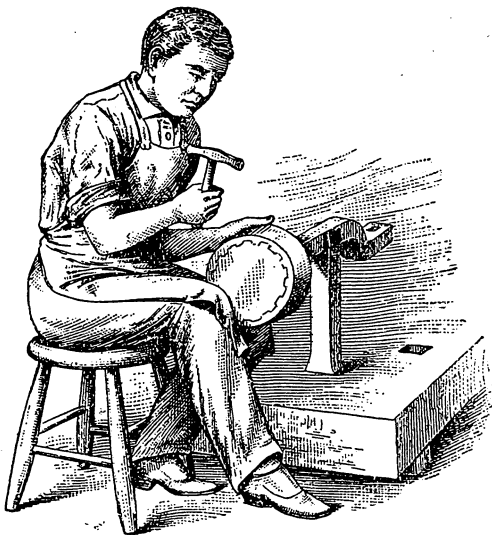


Fig. 107.—Planishing Tea-Kettle Side.

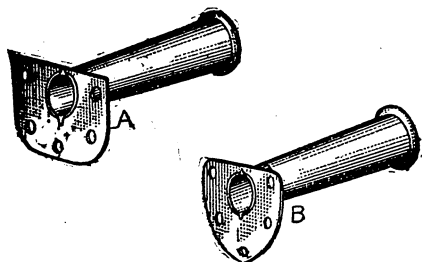


Fig. 54.—Way to Put the Flaps On.

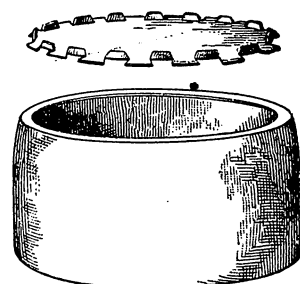


Fig. 105.—Putting in Bottom.

The above are Specimen Illustrations from "The Art of Coppersmithing," and indicate the Practical Nature of the Treatise, and how it Goes into All the Details of Workmanship.

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Historical Sketch of Copper; Braziers' Art, or Light Coppersmithing; First Year's Experience; Repairing and Tinning; The Boy's Second Year; Making Washing Coppers; Making Small Brewing Coppers; Table of Dimensions and Capacity; Making Hand Bowls; Making Frying Pans; Making Closet Pans; Making Water Balls; Mounting for Copper Goods; Glue Pots and Tea-Kettles; Oval Tea-Kettles; Beer Mullers; Funnels; Coffee Pots; Saucepans and Pudding Pots; Stewpans; Stock Pots; Fish Kettles; Brazing Pans; Tea Boilers; Warming Pans; Preserving Pans; Dripping Pans; Coal Scoops and Coal Hods; Making Coal Scoops; Planishing and Smoothing; Cranes or Syphons; Pumps; Appliances of Railway and Marine Coppersmiths; Making Copper Pipe; Piecing and Joining Pipes; The Fire Pots; Fire Pot Set for Brazing Joint; Soft Soldering Large Joints; Taking Templates; Filling and Bending; Making Bends; Template Boards; Patching Pipes; Outlets; Expansion Joints; Tee Pieces; Three-way Pieces; Cross or Four-way Pieces; Saddle Fire; Marine Work; View of Maudsley, Sons & Field's Shop; Making Large Bends; Making Double Bends; Brazing on Flanges; Short Bends; Air Pipes for Ships; Making Hollow Spheres; Brazing Sheet Brass; Locomotive Brass Work; Brass Dome Covers; Heavy Pipes for Breweries; Brewing Coppers or Kettles; Dome Coppers; Dome and Pan Coppers; Tallow Coppers; Dyers' Coppers; Sugar Tieches; Stills.

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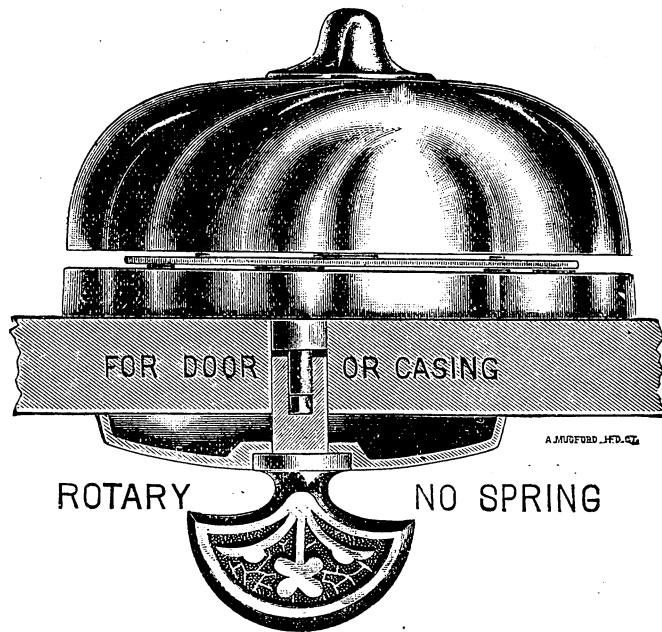
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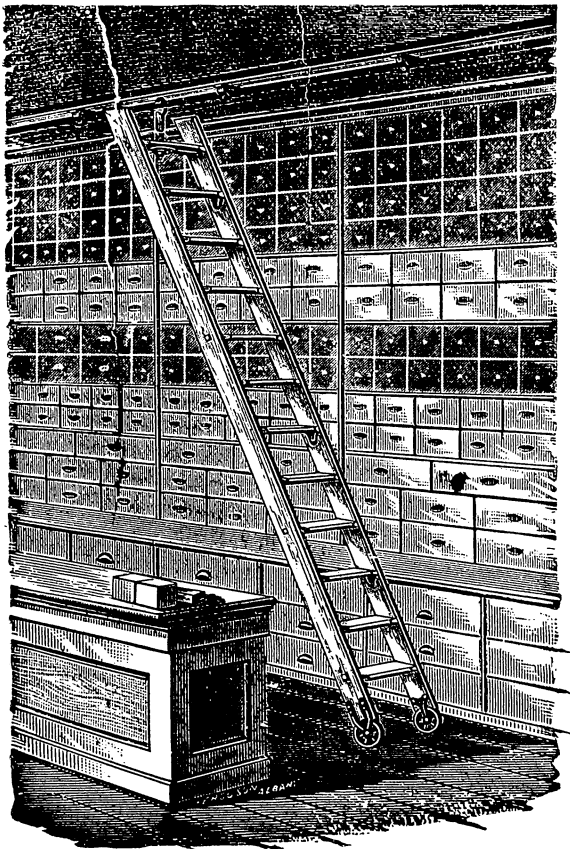
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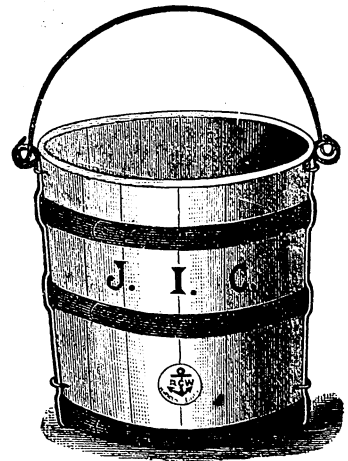
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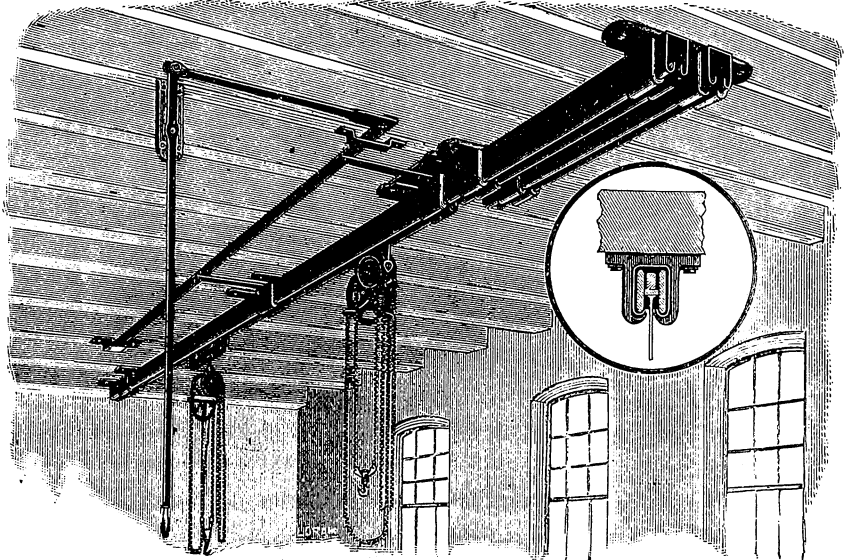
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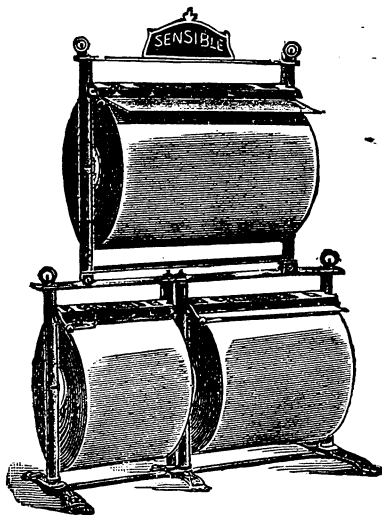
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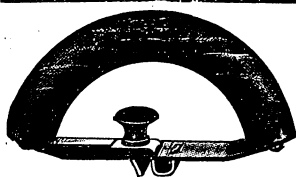
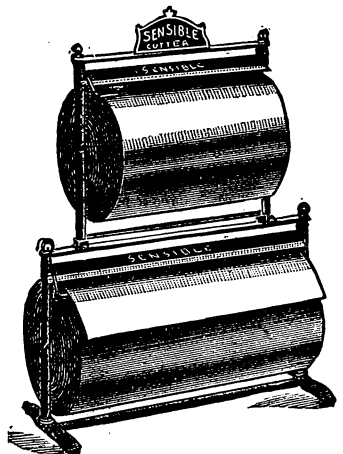
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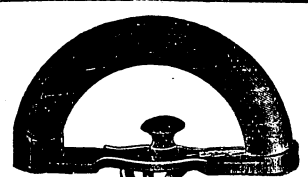


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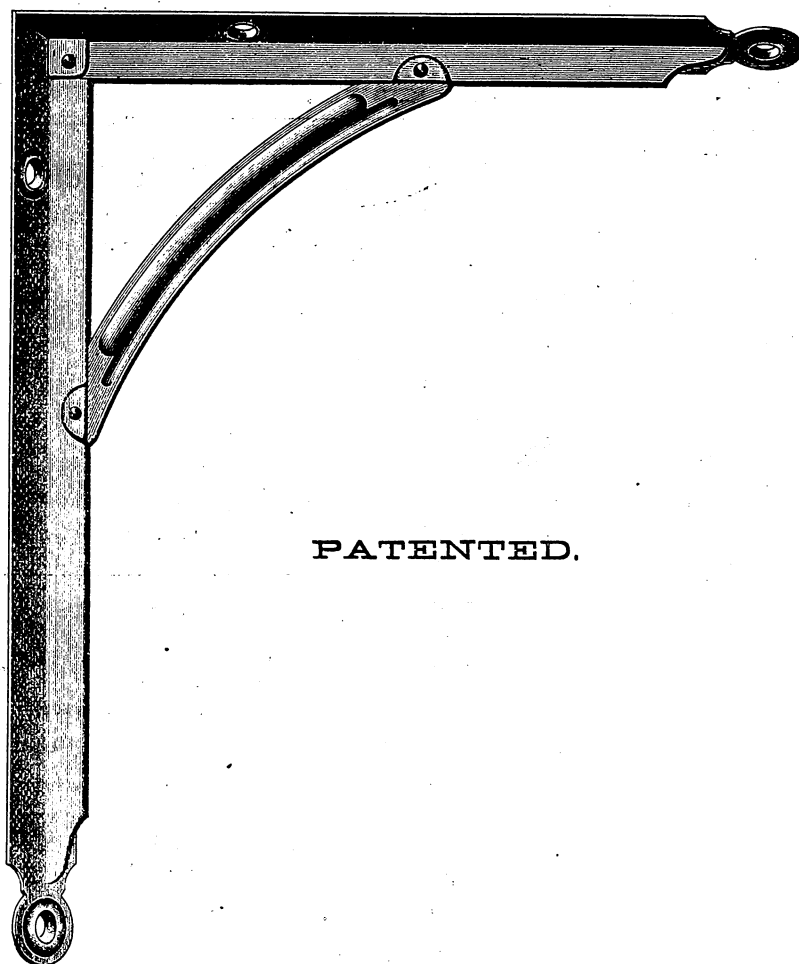
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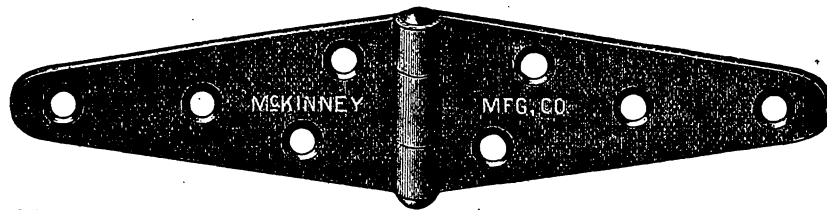
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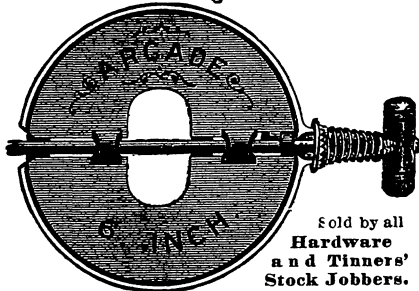
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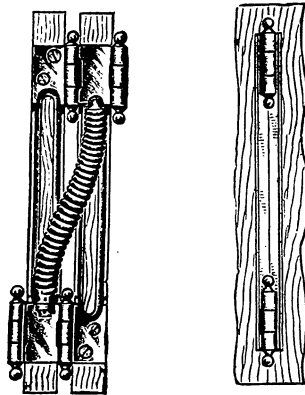
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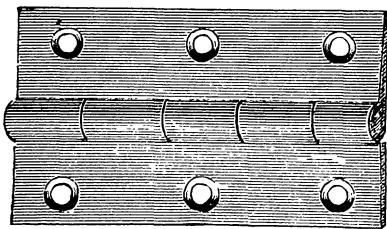


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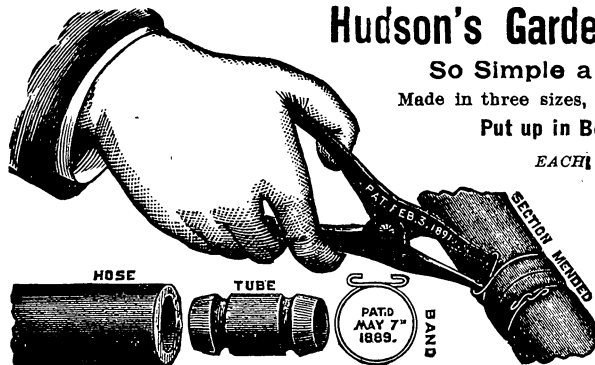
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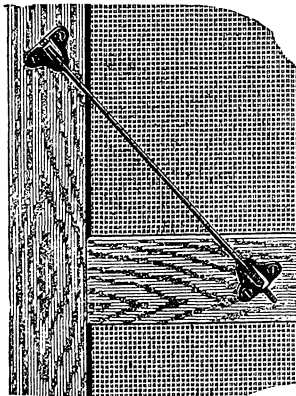
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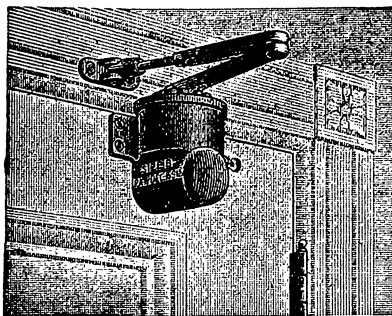
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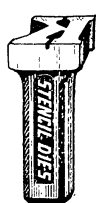
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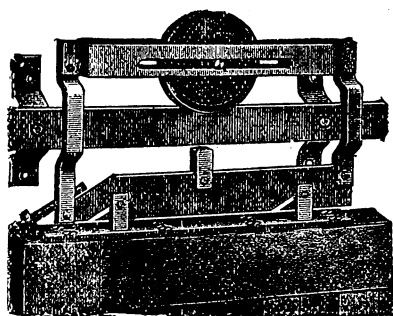
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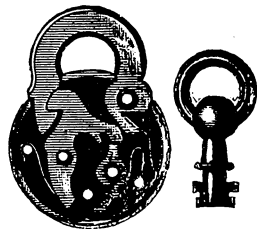
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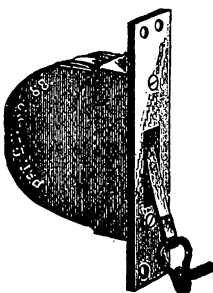
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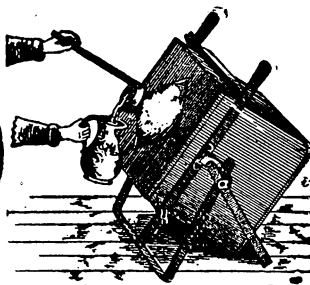
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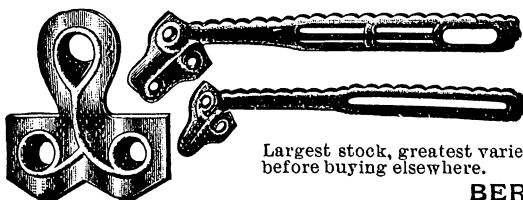
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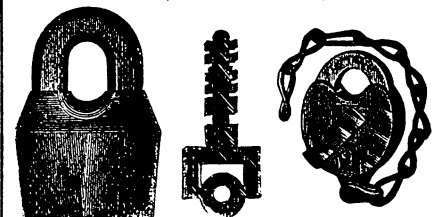
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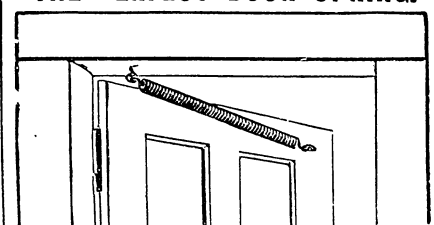
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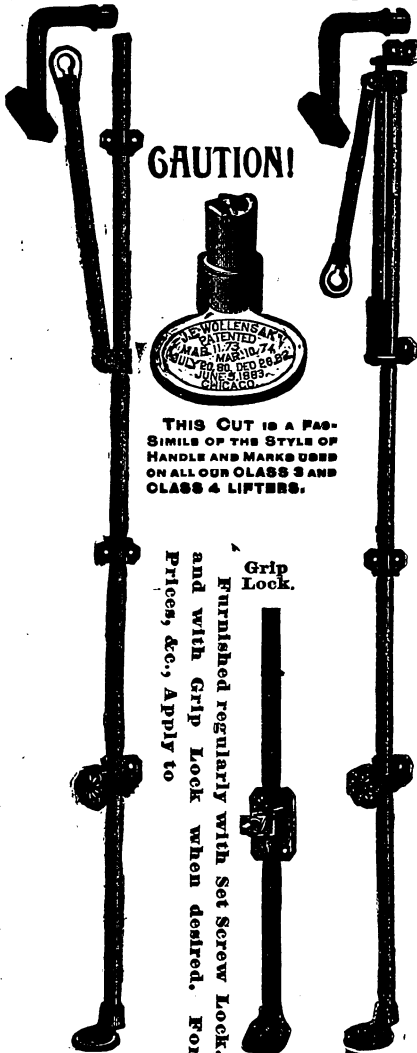


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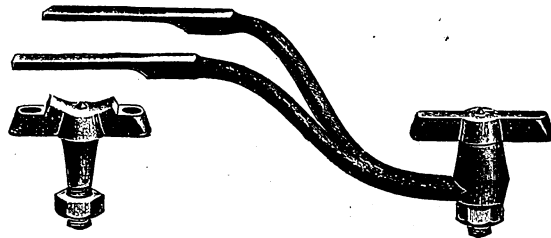
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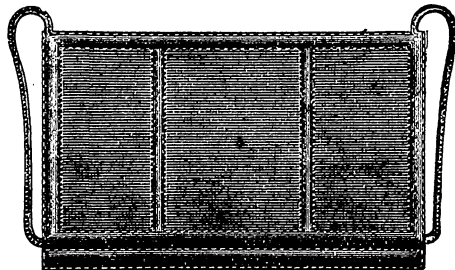
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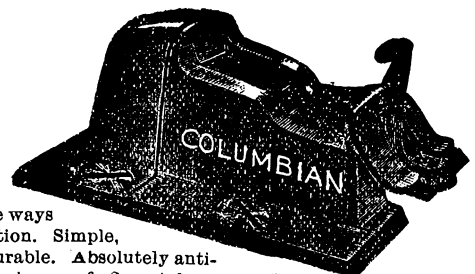
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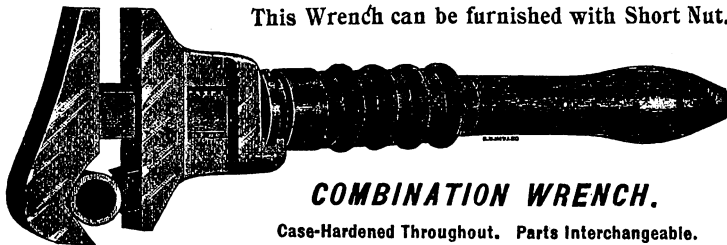
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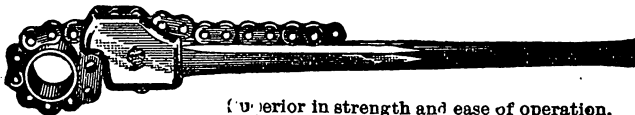
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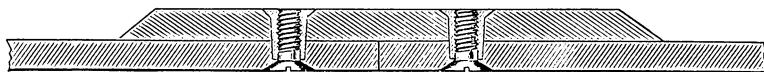


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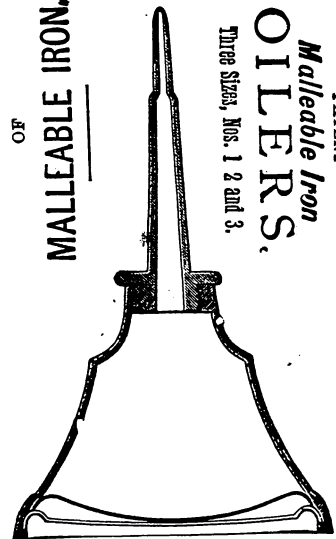
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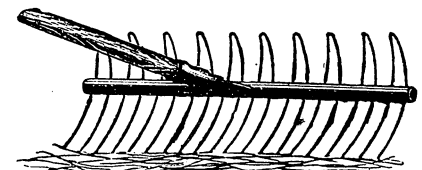
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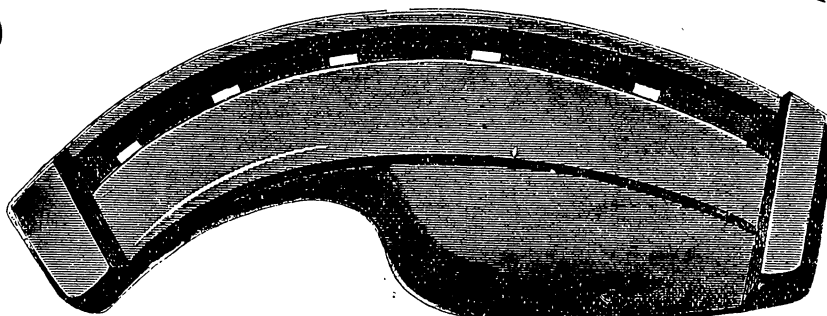
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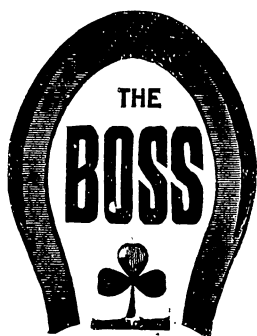
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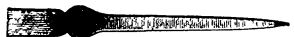
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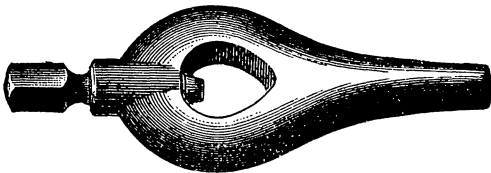
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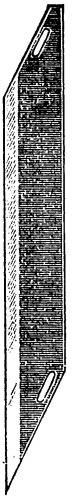
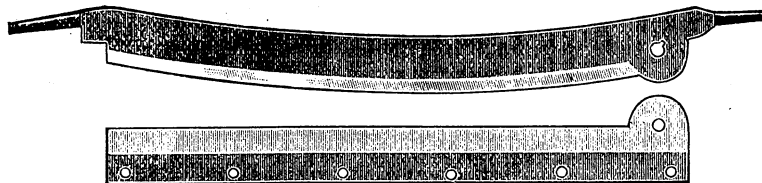
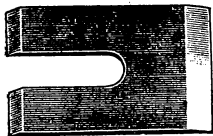
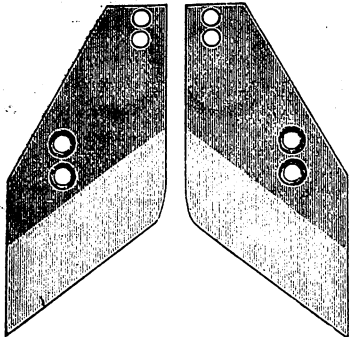
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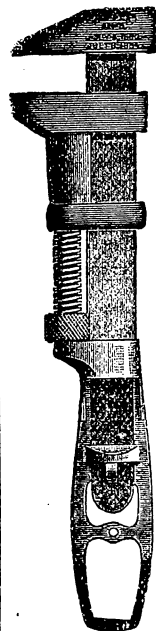
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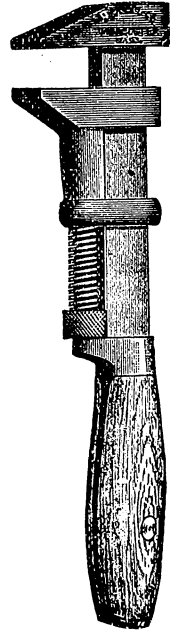
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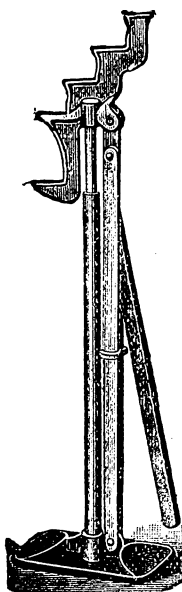
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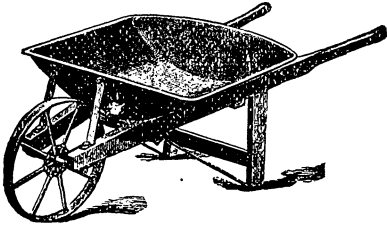
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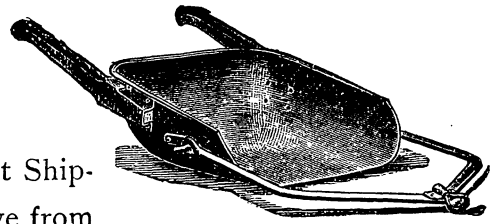
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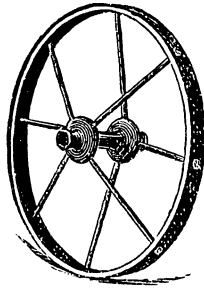
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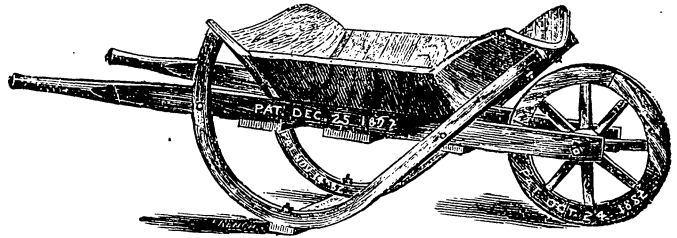


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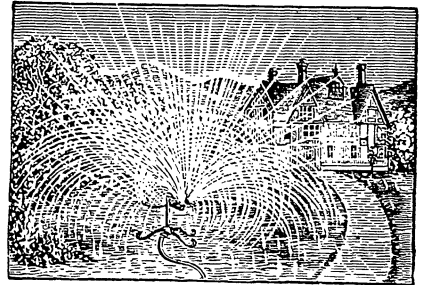
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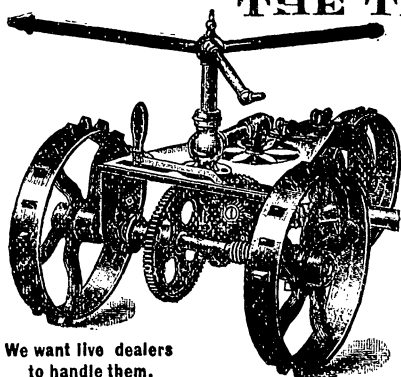
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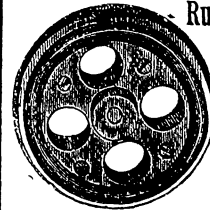
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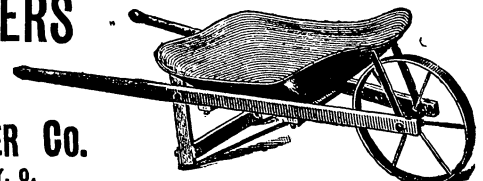
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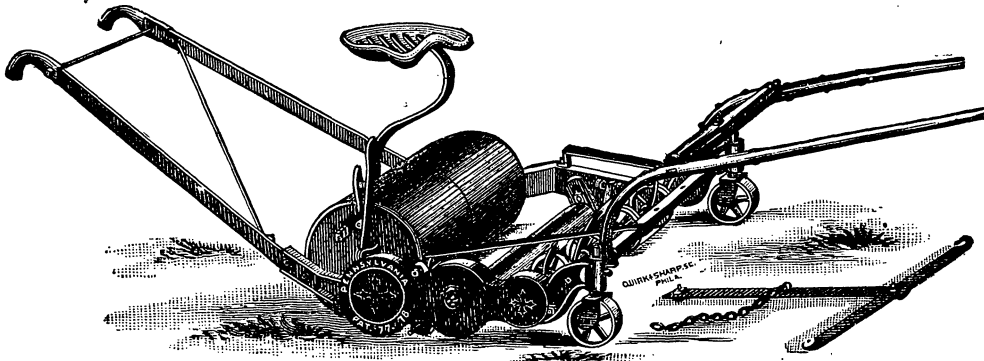


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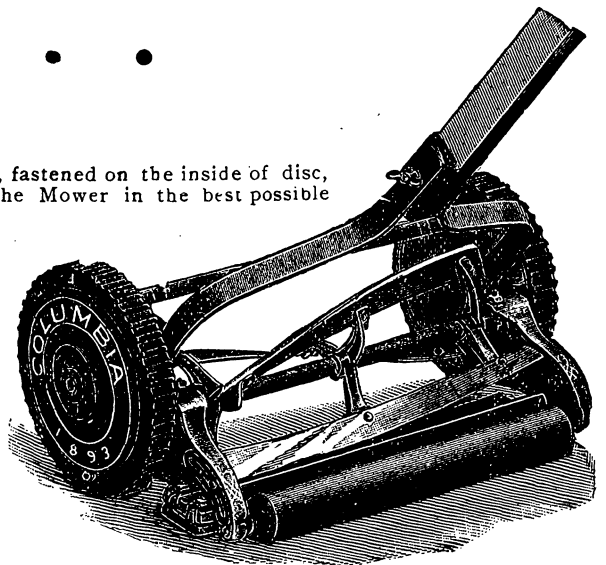
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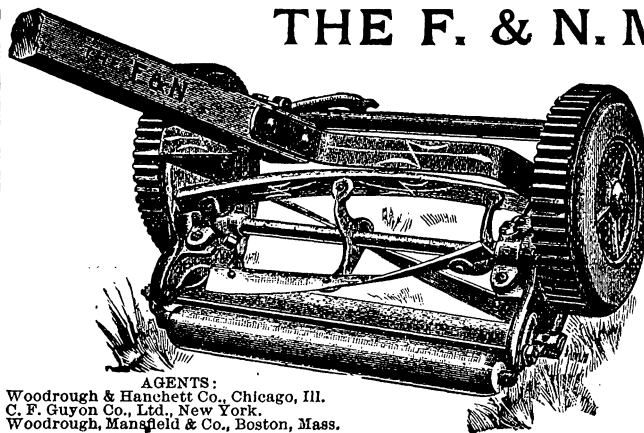
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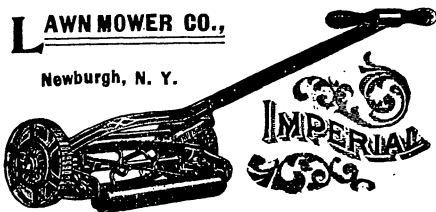


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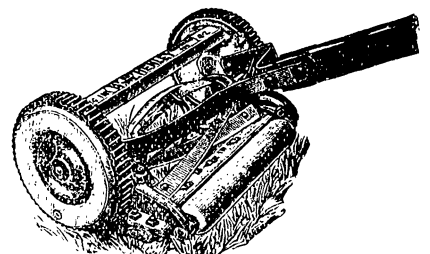
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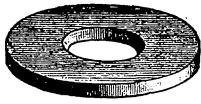
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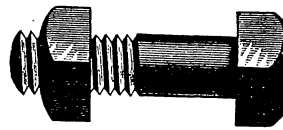
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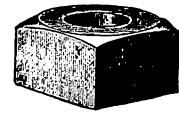
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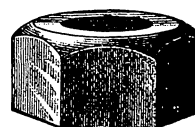
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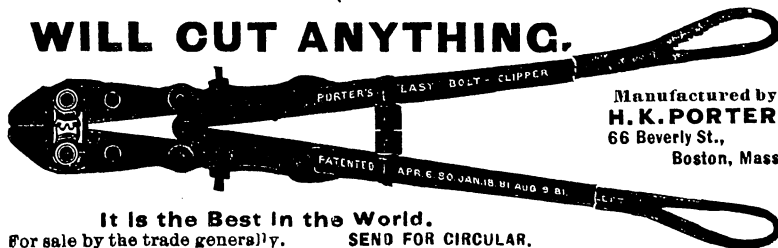
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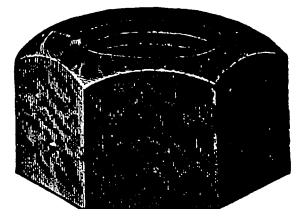
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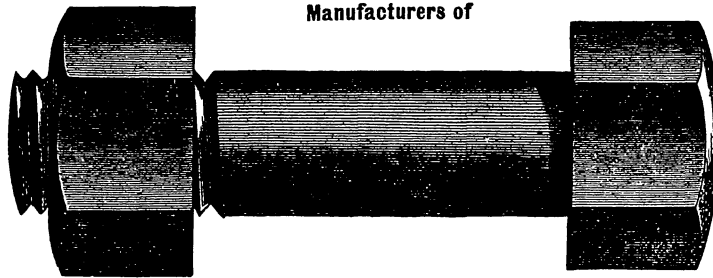
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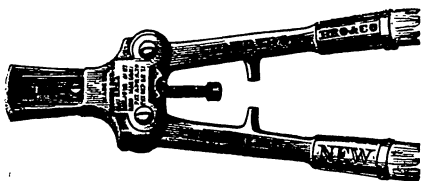
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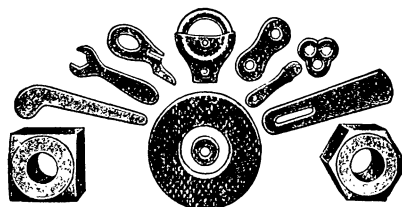
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**Electric Bells and Supplies.**Ostrander, W. R. & Co., 204 Fulton St., New York.  
Wollensak, J. F., Chicago, Ill.**Electric Dynamo Machines.**

Hanson &amp; Van Winkle Co., Newark, N. J.

**Elevators, Makers of.**Link-Belt Engineering Co., Phila., Pa.  
Morse, Williams & Co., Phila., Pa.  
Penna. Elevator Engineering Co., Phila., Pa.  
Warner Elevator Mfg. Co., Cincinnati, Ohio.**Emery and Emery Wheels.**Diamond Mach. Co., Providence, R. I.  
N. Y. Belting & Packing Co., Ltd., N. Y.  
Northampton Emery Wheel Co., Leeds, Mass.  
Norton Emery Wheel Co., Worcester, Mass.  
Sterling Emery Wheel Co., 174 Fulton St., N. Y.**Emery Wheel Dressers.**

Bay State Stamping Co., Worcester, Mass.

**Engineers and Contractors.**Aiken, Henry, Pittsburgh, Pa.  
Herrick, J. A., 284 Pearl St., N. Y.  
Kennedy, Julian, Pittsburgh, Pa.  
Laughlin, Alex. & Co., Pittsburgh, Pa.  
Lean, D. R., Co., Pittsburgh, Pa.  
McClure, Amsler & Co., Pittsburgh, Pa.  
Pittsburgh Iron & Steel Engineering Co., Pittsburgh, Pa.  
Smythe, S. R. Co., Incorporated, Pittsburgh, Pa.  
Swindell, W. & Bros., Pittsburgh, Pa.**Engines, Gas and Gasoline.**Buckeye Mfg. Co., Union City, Ind.  
Otto Gas Engine Works, Phila., Pa.  
Springfield Gas Engine Co., Springfield, Ohio.**Engines, Steam, Makers of.**Bass Foundry & Machine Works, Ft. Wayne, Ind.  
Chandler & Taylor Co., Indianapolis, Ind.  
Harris, Wm. A., Steam Engine Co., Providence, R. I.  
Lane & Bodley Co., Cincinnati, Ohio.  
Norwalk Iron Works Co., So. Norwalk, Conn.  
Penna. Diamond Drill & Mfg. Co., Birdsboro, Pa.  
Phila. Engineering Works, Phila., Pa.  
Southwar. Foundry & Machine Co., Phila., Pa.  
Tod, William & Co., Youngstown, O.  
Totten & Hogg Iron & Steel Fdry. Co., Pittsburgh, Pa.  
Wetherill, Robt. & Co., Chester, Pa.**Exhaust Tumblers.**

Sweetser, W. A., Brockton, Mass.

**Expansion Bolts.**Boone, W. C. Mfg. Co., Boonton, N. J.  
Church, Isaac, Toledo, O.  
Steward & Romaine Mfg. Co., Phila., Pa.**Exporters.**

Flint &amp; Co., 68 Broad St., N. Y.

**Faucets, Self-Measuring.**

Lane Bros., Poughkeepsie, N. Y.

**Faucets, Wooden, Makers of.**

John Sommer's Son, Newark, N. J.

**Feed-Water Heaters and Purifiers.**Davis, I. B. & Son, Hartford, Conn.  
Harrison Safety Boiler Works, Phila., Pa.  
National Pipe Bending Co., New Haven, Conn.  
Taunton Locomotive Mfg. Co., Taunton, Mass.  
Webster, Warren & Co., Camden, N. J.  
Whitlock Coil Pipe Co., Elmwood, Conn.**Fencing, Iron and Wire.**Barnum, E. T., Detroit, Mich.  
Champion Iron Co., Kenton, O.  
Chess Bros., Pittsburgh, Pa.  
Clinton Wire Cloth Co., Clinton, Mass.  
Gilbert & Bennett Mfg. Co., 42 Cliff St.  
Kilmer Mfg. Co., Newburgh, N. Y.  
McCallip Fence & Wire Wks., Columbus, Ohio.  
Randall Fence Co., Le Roy, N. Y.  
The Van Dorn Iron Works Co., Cleveland, O.**Files, Importers of.**

Moss, F. W., 80 John St., N. Y.

**Files and Rasps, Manufacturers of.**Arcade File Works, Anderson, Ind.  
Banker & White, Troy, N. Y.  
Barnett, G. & H., 41 & 43 Richmond, Phila.  
McCaffrey File Co., Philadelphia.  
Nicholson File Co., Providence, R. I.**Fire Brick, Makers of.**Borgner, Cyrus, Philadelphia, Pa.  
Gardner, Jas. & Son, Cumberland, Md.  
Kreischer, B. & Sons, Foot E. Houston St., N. Y.  
Maurer, H. & Son, 420 E. 23d, N. Y.  
Ostrander Fire Brick Co., Troy, N. Y.  
Valentine, M. D. & Bro. Co., Woodbridge.**Fire Doors.**Berlin Iron Bridge Co., E. Berlin, Conn.  
Coburn Trolley Track Mfg. Co., Holyoke, Mass.**Fishing Tackle.**

Dame, Stoddard &amp; Kendall, Boston, Mass.

**Flat and Emery Paper.**

Baeder, Adamson &amp; Co., Phila., Pa.

**Flour Sifters.**Bromwell Brush & Wire Goods Co., Cincinnati, Ohio.  
Meyers, Fred, J. Mfg. Co., Hamilton, O.**Fodder Cutters.**

Silver Mfg. Co., Salem, O.

**Forges, Portable, &c.**Buffalo Forge Co., Buffalo, N. Y.  
Champion Blower & Forge Co., Lancaster, Pa.  
Foos Mfg. Co., Springfield, Ohio.  
Sturtevant, B. F. Co., Boston, Mass.**Forgings, Iron and Steel.**Bethlehem Iron Co., S. Bethlehem, Pa.  
Cambria Steel-Cambria Iron Co., Johnstown, Pa.  
Frankford Steel Co., Phila., Pa.  
Scranton Forging Co., Scranton, Pa.  
U. S. Projectile Co., Brooklyn, N. Y.**Forks, Hay and Manure.**

Iowa Farming Tool Co., Ft. Madison, Iowa

**Foundry Facings.**Dixon, Jos., Crucible Co., Jersey City, N. J.  
S. Obermayer Co., Cincinnati, O.  
Smith, J. D., Fdy. Supply Co., Cin., O.**Foundry Riddles.**

Estey, W. S., 85 Fulton, N. Y.

**Foundry Supplies.**Diamond Clamp & Flask Co., Richmond, Ind.  
S. Obermayer Co., Cincinnati, O.  
Rice Mfg. Co., New Durham, N. H.  
Smith, J. D., Fdy. Supply Co., Cin., O.**Friction Clutches.**Brown, A. & F., 17 Dey St., N. Y.  
Keystone Clutch & Mch. Wks., Phila., Pa.  
Moore & White Co., Philadelphia, Pa.**Friction Cone.**

Evans Friction Cone Co., Boston, Mass.

**Furnaces, Foundry.**

Byram &amp; Co., Detroit, Mich.

**Galvanized Material.**

Jersey City Galvanizing Co., 112 John St., N. Y.

**Gas Producers.**

Wood, R. D. &amp; Co., Philadelphia, Pa.

**Gas & Steam Fitters' Supplies.**

Pancoast, Henry B. &amp; Co., Phila., Pa.

**Gate Hinges.**

Wrightsville Hdwr. Co., Wrightsville, Pa.

**Gear Cutters.**

D. E. Whiton Mach. Co., New London, Conn.

**Gears.**Boston Gear Works, Boston, Mass.  
Lincoln Iron Works, Rutland, Vt.  
Poole, Robt. & Son Co., Baltimore, Md.  
U. S. Projectile Co., Brooklyn, N. Y.**Glass Boards.**

Canton Saw Co., Canton, O.

**Glass Cutters.**

Monce, S. G., Bristol, Conn.

**Glue.**Baeder, Adamson & Co., Phila., Pa.  
Dodd, A. W. & Co., Gloucester, Mass.  
Russia Cement Co., Gloucester, Mass.**Grass Catchers.**

Supplee Hardware Co., Phila., Pa.

**Grinding Mills.**

Foos Mfg. Co., Springfield, O.

**Grinding and Polishing Machines.**Diamond Mach. Co., Providence, R. I.  
Herrick & Cowell, New Haven, Conn.  
Norton Emery Wheel Co., Worcester, Mass.**Grindstone Dressing Machinery.**

Blake &amp; Johnson, Waterbury, Conn.

**Grindstones.**

Cleveland Stove Co., Cleveland, O.

**Gun Implements.**

Union Hdwr. Co., Torrington, Conn.

**Gunpowder, Makers of.**

Lafin &amp; Rand Powder Co., 29 Murray St., N. Y.

**Handles.**

Cleveland Wood Turning Co., Cleveland, O.

**Hangers, Door.**Chicago Spring Butt Co., Chicago, Ill.  
Coburn Trolley Track Mfg. Co., Holyoke, Mass.  
Lane Bros., Poughkeepsie, N. Y.**Hardware Comm'n Merchants.**Graham, John H. & Co., 111 Chambers St., New York.  
Jacobus, W. H., 90 Chambers, N. Y.**Hardware Jobbers.**

White, Van Gahn &amp; Co., 15-17 Chatham Square, N. Y.

**Hardware Manufacturers.**Stearns, E. C. & Co., Syracuse, N. Y.  
Streeter, N. R. & Co., Groton, N. Y.  
Union Mfg. Co., 108 Chambers, N. Y.  
Yale & Towne Mfg. Co., Stamford, Conn.**Hardware Mfrs. Agents.**Bingham, W. Co., Cleveland, O.  
Clarke, Thomas, St. John, N. B.  
Graham, John H. & Co., 113 Chambers  
Sickles, Sweet & Lyon, 35 Barclay, N. Y.**Hardware Specialties.**Acme Shear Co., Bridgeport, Conn.  
Borger Bros., Philadelphia, Pa.  
Clark Mfg. Co., Buffalo, N. Y.  
Enterprise Mfg. Co., Philadelphia, Pa.  
Ette & Henger Mfg. Co., St. Louis, Mo.  
Gwinner Mfg. Co., Hamilton, O.  
Johnson, S. C., Racine, Wis.  
North Bros. Mfg. Co., Philadelphia, Pa.  
Ransom Hdwr. Co., Burlington, Vt.  
Scranton & Co., Bath, Me.  
Wilson, J. Fred, Worcester, Mass.  
Wrightsville Hdwr. Co., Wrightsville, Pa.**Harness Snaps.**Covert Mfg. Co., West Troy, N. Y.  
Covers' Saddlery Wks., Farmert, N. Y.  
Fitch, W. & E. T., New Haven, Conn.**Hog Rings and Ringers.**

Oakes &amp; Irwin, Decatur, Ill.

**Hoisting Machines.**Box, Alfred & Co., 314 Green, Phila.  
Brown Hoisting & Conveying Mch. Co., Cleveland, Ohio.  
Byers, Jno. F. Mch. Co., Ravenna, O.  
Fulton Iron & Engine Wks., Detroit, Mich.  
Harrington, E. Son & Co., Phila.  
Lane Bros., Poughkeepsie, N. Y.  
Lagerwood Mfg. Co., 98 Liberty, N. Y.  
Lincoln Iron Works, Rutland, Vt.  
McCoy, Jos. F. & Co., 26 Warren St.  
Marls & Beekley, Philadelphia.  
Moore Mfg. & Fdy. Co., Milwaukee, Wis.**Horse, Williams & Co., Phila.**Sellers, Wm. & Co., Phila. and N. Y.  
Spedel, J. G., Reading, Pa.**Hollow Ware.**Avery Stamping Co., Cleveland, O.  
Brounson Supply Co., Cleveland, Ohio.  
Cleveland Stamping & Tool Co., Cleveland, O.  
Stuart & Peterson Co., Phila., Pa.**Horse Nails, Makers of.**Capewell Horse Nail Co., Hartford, Conn.  
National Horse Nail Co., Vergennes, Vt.  
Putnam Nail Co., Neponset, Boston, Mass.**Horse and Mule Shoes, Makers of.**Bryden Horse Shoe Co., Catsauqua, Pa.  
Borden Iron Co., Troy, N. Y.  
Crestat Horse Shoe & Iron Co., Max Meadows, Va.  
Diamond State Iron Co., Wilmington, Del.  
Leonard, J., 446 West St., N. Y.  
Old Dominion Iron & Nail Works Co., Richmond, Va.  
Phelps Horse Shoe Co., Poughkeepsie, N. Y.  
Rhode Island Perkins Horse Shoe Co., Providence.  
Shoenberger & Co., Pittsburgh, Pa.  
Standard Horse Shoe Co., Boston, Mass.**Hose Menders.**

Hudson, C. E. &amp; Co., Leominster, Mass.

**Hose.**Cleveland Rubber Works, Cleveland, O.  
N. Y. Belting & Packing Co., Ltd., 15 Park Row, N. Y.**Hydrants, &c.**

McLean, John, 296 &amp; 298 Monroe, N. Y.

**Hydraulic Forging.**

U. S. Projectile Co., Brooklyn, N. Y.

**Hydraulic Jacks.**Dudgeon, Richard, 24 Columbia, N. Y.  
McCoy, Jos. F. Co., 26 Warren St., N. Y.**Ice Cream Freezers.**

White Mountain Freezer Co., Nashua, N. H.

**Injectors.**Eynon-Evans Mfg. Co., Philadelphia, Pa.  
Jenkins Bros., New York.  
Sherwood Mfg. Co., Buffalo, N. Y.**Insurance, Boiler.**

Hartford Steam Boiler Inspection &amp; Insurance Co., Hartford, Conn.

**Iron and Steel, Swedish.**Lundberg, Gustaf, Boston, Mass.  
Milne, A. & Co., 1 Broadway, N. Y.**Iron Commission Brokers.**Butze, Adolph, St. Louis, Mo.  
Corning, Edw. & Co., 29 B'way, N. Y.  
Cotton, Barclay W. Co., Phila.  
Etting, Edw. J., Philadelphia.  
Hogan, John L. & Co., Philadelphia, Pa.  
Hoffman, J. W. & Co., Philadelphia.  
Levis, Henry & Co., Philadelphia.  
Keeley, Jerome & Co., Philadelphia.  
Lea, J. Tatnall & Co., Philadelphia.  
Mohr, J. J., 430 Walnut, Philadelphia.  
Pilling & Crane, Philadelphia, Pa.  
Wister, L. & R. & Co., Phila., Pa.**Iron Ore.**

Samuel, Frank, Philadelphia, Pa.

**Iron, Merchants.**Borden & Lovell, 70 West, N. Y.  
Bussenius & Cunliffe, Philadelphia.  
Corning, Edw. & Co., 29 B'way, N. Y.  
Cox, Justice, Jr., Philadelphia.  
Cotton, Barclay W. & Co., Phila.  
Hoffman, J. W. & Co., Philadelphia.  
Leonard, J., 446 West St., N. Y.  
Nicks, Wheeler & Co., Philadelphia.  
Ogden & Wallace, 577 to 583 Greenwich St., N. Y.  
Pierson & Co., 29 Broadway, N. Y.  
Thomson, W. H. & Co., Phila., Pa.  
Wallace, Wm. H. & Co., 60 B'way, N. Y.  
Whitney, A. R. & Co., 17 B'way, N. Y.  
Wilson, E. H. & Co., Philadelphia.**Iron, Importers.**Abbott, Wheelock & Co., N. Y. and Boston.  
Lundberg, Gustaf, Boston, Mass.**Iron, Sheet, Manufacturers of.**Cambridge Iron & Steel Co., Cambridge, Ohio.  
W. Dewees Wood Co., Lim., McKeesport, Pa.**Ironwork, Ornamental.**Barnum, E. T., Detroit, Mich.  
Champion Iron Co., Kenton, O.  
Ludlow-Saylor Wire Co., St. Louis, Mo.  
The Van Dorn Iron Works Co., Cleveland, O.**Keys.**

Wollensak, J. F., Chicago, Ill.

**Ladles.**

Whiting Fdy. Equipment Co., Chicago, Ill.

**Lamps.**

Standard Lighting Co., Cleveland, O.

**Lanterns.**Rochester Lamp Co., 42 Park Place, New York.  
Steam Gauge & Lantern Co., Syracuse, N. Y.**Lathes.**Dietz, Schumacher & Co., Cincinnati, O.  
Draper Machine Tool Co., Worcester, Mass.  
Harrington, E. Son & Co., Phila., Pa.  
Johnson, Israel H., Jr. & Co., Philadelphia, Pa.  
New Haven Mfg. Co., New Haven, Conn.  
Sebastian Lathe Co., Cincinnati, O.  
Seneca Falls Mfg. Co., Seneca Falls, N. Y.**Lathing, Expanded Metal.**

Chess Bros., Pittsburgh, Pa.

**Lathing, Wire.**Clinton Wire Cloth Co., Clinton, Mass.  
N. J. Wire Cloth Co., Trenton, N. J.  
Wright & Colton Wire Cloth Co., Worcester, Mass.**Lawn Mowers.**Anderson, F. S. & Co., Richmond, Ind.  
Blair Mfg. Co., Springfield, Mass.  
Chadborn & Coldwell Mfg. Co., Newburg, N. Y.  
Coldwell Lawn Mower Co., Newburg, N. Y.  
F. & N. Mfg. Co., Richmond, Ind.  
Henley, M. C., Richmond, Ind.  
Supplee Hdwr. Co., Phila., Pa.**Lawn Rakes.**

Gibbs Mfg. Co., Canton, Ohio.

Kohler, F. E. &amp; Co., Canton, O.

**Lawn Sprinklers.**Blair Mfg. Co., Springfield, Mass.  
Ette & Henger Mfg. Co., St. Louis, Mo.  
Graham, John H. & Co., 111 Chambers Street, N. Y.  
McGowan, John H. Co., Cincinnati, O.  
Portland Lawn Sprinkler Co., Portland, Me.**Letters and Figures, Metallic.**

White, A. A. &amp; Co., Providence, R. I.

**Letters, Paper.**

Tablet &amp; Ticket Co., Chicago, Ill.

**Levels.**

Richardson, C. F. &amp; Son, Athol, Mass.

**Locks and Knobs, Manufacturers of.**Deltz, A. E., 97 Chambers, N. Y.  
Reading Hdwr. Co., Reading, Pa.  
Smith & Egge Mfg. Co., Bridgeport, Conn.  
Yale & Towne Mfg. Co., Stamford, Conn.**Lubricants.**

Dixon, Jos., Crucible Co., Jersey City, N. J.

**Machinery.**Am. Tool Works, Cleveland, Ohio.  
Ayer, H. C. & Gleason Co., Phila., Pa.  
Barnes, W. F. & John, Rockford, Ill.  
Bement, Miles & Co., Philadelphia, Pa.  
Bigelow, C. E., 45 Dey, N. Y.  
Bixmal & Keeler Mfg. Co., St. Louis.  
Bliss, E. W. Co., Brooklyn, N. Y.  
Bridgeport Mch. Tool Works, Bridgeport, Conn.  
Briggs, Marvin, 12 Broadway, N. Y.  
Carlin's Sons, Thos., Allegheny, Pa.  
Clapp, Geo. M., agt., 45 Cortlandt, N. Y.  
Detrick & Harvey Mch. Co., Baltimore, Md.  
Dietz, Schumacher & Co., Cincinnati, Ohio.  
Fitchburg Mch. Works, Fitchburg, Mass.  
Garvin Mch. Co., Laight & Canal Sts.  
Gould & Eberhardt, Newark, N. J.  
Hamilton Mch. Tool Co., Hamilton, O.  
Harrington, E. Son & Co., Phila., Pa.  
Henderer, A. L., Wilmington, Del.  
Hendey Machine Co., Torrington, Ct.  
Hill, Clarke & Co., Boston, Mass.  
Howard & Morse, 45 Fulton St., N. Y.  
Johnson, Israel H., Jr. & Co., Phila.  
Jones & Lamson Mch. Co., Springfield, Vt.  
Lodge & Davis Mch. Tool Co., Cincinnati, O.  
Lodge & Shipley Mch. Tool Co., Cincinnati, O.  
McCabe, J. J., 68 Cortlandt, N. Y.  
Machinery's Supply Co., Rochester, N. Y.  
Marville, E. J., Mch. Co., Waterbury, Conn.  
Newark Mch. Tool Wks., Newark, N. J.  
New Haven Mfg. Co., New Haven, Ct.  
New York Machinery Depot, 178 Broadway, New York.  
Niles Tool Wks., 138 Liberty St., N. Y.  
Pittsburgh Mfg. Co., Pittsburgh, Pa.

- Place, Geo., 145 Broadway, N. Y.  
 Poole, Robt. & Son Co., Baltimore, Md.  
 Powell Planer Co., Worcester, Mass.  
 Prentiss Tool & Supply Co., N. Y.  
 Scranton Supply & Mchry. Co., Scranton, Pa.  
 Seibert, J. M., Philadelphia, Pa.  
 Sellers, Wm. & Co., Phila.  
 Seyfert's Sons, L. F., Philadelphia, Pa.  
 Sigourney Tool Co., Hartford, Conn.  
 Steptoe, J. & Co., Cincinnati, O.  
 Stow Flexible Shaft Co., Ltd., Phila.  
 Toomey, Frank, Philadelphia, Pa.  
 Walker Mfg. Co., Cleveland, O.  
 Wetherill, Robert & Co., Chester, Pa.  
 Wilson, W. A., Rochester, N. Y.
- Machinery for Hardware Manufacturers.**  
 Adt, Jno. & Son, New Haven, Conn.
- Machine Knives.**  
 Loring, Coes & Co., Worcester, Mass.  
 Loyd, John, 558-562 Water St., N. Y.  
 Simonds Mfg. Co., Fitchburg, Mass.
- Machine Screws.**  
 Hubbell, Harvey, Bridgeport, Ct.
- Machine Tools.—See Machinery.**
- Machine Work.**  
 Papping, J., 58th St. & 11th Ave., N. Y. City.
- Machinists' Scales.**  
 Coffin & Leighton, Syracuse, N. Y.  
 Starrett, L. S., Athol, Mass.
- Machinists' Tools and Supplies.**  
 King, J. M. & Co., Watford, N. Y.  
 Sellers, Wm. & Co., Inc., Phila.
- Measuring Tapes.**  
 Keuffel & Esser Co., N. Y.
- Meat Choppers.**  
 Enterprise Mfg. Co., Philadelphia, Pa.
- Meat Cutters.**  
 North Bros. Mfg. Co., Philadelphia, Pa.
- Mechanical Instruction.**  
 Correspondence School of Mechanics, Scranton, Pa.
- Merry-go-round.**  
 Clark, W. J. & Co., Salem, Ohio.
- Metals.**  
 Fearing, Wm. S., 100 Chambers, N. Y.  
 Hendricks Bros., 49 Cliff, N. Y.
- Metal Brokers.**  
 American Metal Co., N. Y.
- Metallurgists.**  
 Britton, J. Blodgett, Phila., Pa.
- Mining Knives.**  
 Palmer Hdw. Mfg. Co., Troy, N. Y.
- Mine Lamps.**  
 Darby, Edw. & Sons, Phila., Pa.  
 Leonard, B. E., Scranton, Pa.
- Mining Screens.**  
 Harrington & King Perforating Co., Chicago, Ill.  
 Howard & Morse, 45 Fulton, N. Y.
- Models, Makers of.**  
 Franklin, H. H. Mfg. Co., Syracuse, N. Y.  
 Ideal Machine Works, Hartford, Conn.
- Molding Sand.**  
 Obermayer, S. Co., Cincinnati, O.
- Money Drawers.**  
 Columbian Novelty Co., North East, Penna.  
 Waddell Wooden Ware Wks., Greenfield, Ohio.
- Motors, Water and Electric.**  
 Bolgiano Mfg. Co., Baltimore, Md.  
 C. & C. Electric Co., 402 and 404 Greenwich St., N. Y.  
 Dallett, Thomas H. & Co., Phila., Pa.
- Nail Keg Stock.**  
 Crescent Mfg. Co., Detroit, Mich.
- Nail Machinery.**  
 Pittsburgh Mfg. Co., Pittsburgh, Pa.
- Nail and Tack Pullers.**  
 Am. Specialty Co., Hartford, Conn.  
 Scranton & Co., New Haven, Conn.
- Nails (Cut) and Spikes.**  
 Borden & Lovell, 70 West, N. Y.  
 Pottstown Iron Co., Pottstown, Pa.  
 Riverside Iron Wks., Wheeling, W. Va.  
 Valley Steel Co., St. Louis, Mo.
- Nickel Plated Supplies.**  
 Eddy Electric Mfg. Co., Windsor, Conn.
- Nickel Platers' Supplies.**  
 Hanson & Van Winkle Co., Newark, N. J.  
 Zucker & Levett & Loeb Co., 10 to 14 Grand St., N. Y.
- Nickel Plating.**  
 Rhodes, L. E. Co., Hartford, Conn.
- Norway Shapes, Rollers of.**  
 Rowland, William & Harvey, Frankford, Philadelphia.
- Novelty Manufacturers.**  
 Franklin, H. H. Mfg., Syracuse, N. Y.  
 Ideal Machine Works, Hartford, Conn.
- Nut Machines.**  
 Dunham Nut Co., Unionville, Ct.
- Nuts, Bolts, &c., Makers of.**  
 American Bolt Co., Lowell, Mass.  
 American Screw Co., Providence, R. I.  
 Blake & Johnson, Waterbury, Conn.  
 Dunham Nut Co., Unionville, Conn.  
 Haskell, Wm. H. Co., Pawtucket, R. I.  
 Mt. Carmel Bolt Co., Mt. Carmel, Conn.  
 Pennsylvania Bolt & Nut Co., Lebanon, Pa.  
 Port Chester Bolt & Nut Co., Port Chester, N. Y.  
 Russell, Burdall & Ward, Port Chester, N. Y.  
 Sternbergh, J. H. & Son, Reading, Pa.  
 Wilson, J. Fred., Worcester, Mass.  
 Wm. H. Haskell Co., Pawtucket, R. I.
- Oil Cups and Lubricators.**  
 Sherwood Mfg. Co., Buffalo, N. Y.
- Oil Stones.**  
 Wm. & Hobbs Mfg. Co., Bridgeport, Conn.
- Oil Stones.**  
 Pike Mfg. Co., Pike Station, N. H.
- Ores.**  
 Wister, Francis, Philadelphia, Pa.
- Ox Shoes.**  
 Millers Falls Co., 93 Reade St., N. Y.  
 Scranton Forging Co., Scranton, Pa.
- Packing.**  
 Morrison, Robert, St. Louis, Mo.  
 N. Y. Belting & Packing Co., Ltd., N. Y.
- Padlocks.**  
 Ames Sword Co., Chicopee, Mass.  
 Fraim, E. T., Lancaster, Pa.  
 Wolf, W. & L., Phila., Pa.
- Pails.**  
 Richmond Cedar Wks., Richmond, Va.
- Paint.**  
 Garry Iron & Steel Roofing Co., Cleveland, O.
- Paint Burners.**  
 Descent Stove & Mfg. Co., Cleveland, Ohio.
- Paint Cans.**  
 Wilmot & Hobbs Mfg. Co., Bridgeport, Conn.
- Pants Stretcher.**  
 Covert Mfg. Co., West Troy, N. Y.
- Patent Solicitors.**  
 Butler, C. N., Phila., Pa.  
 Jenner, H. W. T., Washington, D. C.  
 Howson & Howson, Philadelphia and Washington.  
 Stocking, E. B., Washington, D. C.
- Pattern Letters.**  
 Wells, Heber, 157 William St., N. Y.
- Perforated Metal.**  
 Clinton Wire Cloth Co., Clinton, Mass.  
 Harrington & King Perforating Co., Chicago, Ill.  
 Hendrick Mfg. Co., Ltd., Carbondale, Pa.
- Phosphor Bronze.**  
 Phosphor Bronze Smelting Co., Limited, Philadelphia.
- Phosphor Tin.**  
 Crescent Phosphorized Metal Co., Philadelphia, Pa.  
 Halk & Naumann, 516 Pearl, N. Y.
- Picks and Mattocks.**  
 Plumb, Fayette R., Philadelphia, Pa.
- Pig Iron.**  
 Houston, C. B. & Co., Philadelphia, Pa.  
 Montour Iron & Steel Co., Danville, Pa.  
 Naylor & Co., 45 Wall, N. Y.  
 Filling & Crane, Philadelphia, Pa.  
 Samuel, Frank, Philadelphia, Pa.
- Pig Iron Storage.**  
 Am. Pig Iron Storage Warrant Co., 44 Wall, N. Y.
- Pile Drivers.**  
 Vulcan Iron Works, Chicago, Ill.
- Pipe, Bent.**  
 National Pipe Bending Co., New Haven, Conn.
- Pipe Cutting and Threading Machines.**  
 Armstrong Mfg. Co., Bridgeport, Conn.  
 Bignall & Keeler Mfg. Co., St. Louis, Mo.  
 Detrick & Harvey Mch. Co., Baltimore, Md.  
 Merrill Mfg. Co., Toledo, O.  
 Fancoast, Henry B. & Co., Phila.  
 Saunders' Sons, D., Yonkers, N. Y.  
 Walworth Mfg. Co., Boston, Mass.
- Pipe Grips.**  
 Prentiss Vise Co., 44 Barclay, N. Y.
- Pipes, Fittings, &c., Makers of.**  
 McNab & Harlin Mfg. Co., N. Y.
- Pipe, Water and Gas, Makers of.**  
 Donaldson Iron Co., Emaus, Pa.  
 Riverside Iron Works, Wheeling, W. Va.  
 Wood, R. D. & Co., Philadelphia, Pa.
- Plane Irons, Manufacturers of.**  
 Buck Bros., Millbury, Mass.  
 Buck, Chas., Millbury, Mass.
- Planers.**  
 Detrick & Harvey Mch. Co., Baltimore, Md.  
 New Haven Mfg. Co., New Haven, Conn.  
 Powell Planer Co., Worcester, Mass.  
 Wilson, W. A., Worcester, Mass.
- Planes, Manufacturers of.**  
 Stanley Rule & Level Co., N. Y.
- Plated Ware.**  
 Boardman, L. & Son, New Haddam, Ct.  
 Holmes & Edwards Silver Co., Bridgeport, Conn.  
 Rogers, Wm. Mfg. Co., Hartford, Ct.
- Plate, Iron and Steel, Mfrs. of.**  
 Etna-Standard Iron & Steel Co., Bridgeport, O.  
 Lukens Iron & Steel Co., Coatesville, Pa.  
 Mahoning Valley Iron Co., Youngstown, Ohio.  
 Moorhead-McLean Co., Pittsburgh, Pa.  
 McIlvain & Sons, Reading, Pa.  
 Pottstown Iron Co., Pottstown, Pa.  
 Pottsville Iron & Steel Co., Pottsville, Pa.  
 Singer, Nimick & Co., Pittsburgh, Pa.  
 The Mahoning Valley Iron Co., Youngstown, O.  
 Wood, Alan Co., Philadelphia.
- Plating, Nickel, Brass and Silver.**  
 Wilmot & Hobbs Mfg. Co., Bridgeport, Conn.
- Polishing Machines.**  
 Watson & Stillman, 201 E. 42d, N. Y.
- Post Hole Diggers.**  
 Gibbs Mfg. Co., Canton, Ohio.  
 Kohler, F. E. & Co., Canton, O.
- Poultry Nettings.**  
 Baruum, E. T., Detroit, Mich.  
 Gilbert, E. J., Bennett Mfg. Co., 42 Cliff St., N. Y.  
 N. J. Wire Cloth Co., Trenton, N. J.  
 "Silver Finish."  
 Tyler Wire Works Co., W. S., Cleveland, O.  
 Wright & Colton Wire Cloth Co., Worcester, Mass.
- Powder.**  
 Laffin & Rand Powder Co., 29 Murray, New York Powder Co., 62 Liberty St., N. Y.
- Power Hammers.**  
 Dineit & Eisenhardt, Philadelphia.  
 Dupont Mfg. Co., St. Johnsbury, Vt.  
 Jenkins & Lingle, Bellefonte, Pa.  
 Miner & Peck Mfg. Co., New Haven, Conn.  
 Scranton & Co., New Haven, Conn.
- Power Transmitting Machinery.**  
 Dodge Mfg. Co., Mishawaka, Ind.
- Presses, Dies, &c.**  
 E. W. Bliss Co., Brooklyn, N. Y.  
 Crosby, G. A. & Co., Chicago, Ill.  
 Ferracute Mch. Co., Bridgeton, N. J.  
 Stark Mch. & Tool Co., Buffalo, N. Y.  
 Stiles & Parker Press Co., Brooklyn, N. Y.  
 Waterbury Mch. Co., Waterbury, Ct.
- Presses, Power, Makers of.**  
 Bliss, E. W. Co., Brooklyn, N. Y.  
 Anville, E. J. Mch. Co., Waterbury, Ct.  
 Stark Mch. & Tool Co., Buffalo, N. Y.  
 Waterbury Farrel Foundry & Machine Co., Waterbury, Conn.
- Printers.**  
 Griffith, Axtell & Cady Co., Holyoke, Mass.
- Pruning Knives.**  
 Gibbs Mfg. Co., Canton, O.
- Pulleys.**  
 Brown, A. & F., 17 Dey St., N. Y.  
 Dodge Mfg. Co., Mishawaka, Ind.  
 Keystone Clutch Mch. Wks., Phila., Pa.  
 Reeves Pulley Co., Columbus, Ind.
- Pulverizing Mills.**  
 Bradley Fertilizer Co., Boston, Mass.
- Pumping Machinery.**  
 Dean Bros. Steam Pump Works, Indianapolis, Ind.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Hooker-Corville Steam Pump Co., St. Louis, Mo.  
 Lucas, C. O. & Co., Greenville, Ohio.  
 McGowan, J. H. & Co., Cincinnati, O.  
 Maslin, J. & Son, Jersey City, N. J.  
 Norwalk Iron Works Co., So. Norwalk, Conn.  
 Southwark Fdy. & Mch. Co., Phila., Pa.  
 Valley Pump Works, Easthampton, N. Y.  
 Worthington, Henry R., 86 and 88 Liberty St., N. Y.
- Pumps, Makers of.**  
 Deming Co., Salem, O.  
 Douglas, W. & B., Middletown, Conn.  
 Goulds Mfg. Co., Seneca Falls, N. Y.  
 Miller, C. & Sons, Utica, N. Y.  
 Myers, F. E. & Bro., Ashland, O.  
 Red Jacket Mfg. Co., Davenport, Iowa.
- Punches.**  
 Richards, I. P., Providence, R. I.
- Punches and Shears, Hand and Power.**  
 E. W. Bliss Co., Brooklyn, N. Y.  
 Crosby, G. A. & Co., Chicago, Ill.  
 Ferracute Mch. Co., Bridgeton, N. J.  
 Henderer, A. L., Wilmington, Del.  
 Stark Mch. & Tool Co., Buffalo, N. Y.  
 Stiles & Parker Press Co., Brooklyn, N. Y.  
 Wais & Roos Punch & Shear Co., Cincinnati, Ohio.  
 Waterbury Farrel Foundry & Machine Co., Waterbury, Conn.  
 Watson & Stillman, 201 E. 42d, N. Y.
- Rails, Old and New.**  
 Perry, W. H. & Co., Providence, R. I.
- Rat and Mouse Traps.**  
 Estey, W. S., 65 Fulton, N. Y.
- Razor Guard.**  
 Murphy, P. D., Lockport, N. Y.
- Razor Sharpener.**  
 Dame, Stoddard & Kendall, Boston, Mass.
- Razor Stropps.**  
 Torrey J. R. & Co., Worcester, Mass.
- Razors, Manufacturers of.**  
 Erceisor Cutlery Co., Worcester, Mass.
- Reels.**  
 Hendryx, A. B. Co., New Haven, Conn.
- Refrigerator Door Fasteners.**  
 Conroy, P. J. & Co., Philadelphia.
- Rivets.**  
 Blake & Johnson, Waterbury, Conn.  
 Bay City Rivet Co., Muncie, Ind.  
 Burden Iron Co., Troy, N. Y.  
 Clark & Cowles, Plainville, Conn.  
 Cobb & Drew, Plymouth, Mass.  
 New England Screw Co., Boston, Mass.  
 Sternbergh, J. H. & Son, Reading, Pa.  
 Townsend, W. P. & Co., New Brighton, Pa.
- Riveting Machines.**  
 Adt, Jno. & Sons, New Haven, Conn.
- Rolling Mill Machinery.**  
 Birmingham Iron Fdry, Birmingham, Conn.  
 Booth, The Lloyd Co., Youngstown, O.  
 Leechburg Foundry & Mch. Co., Pittsburgh, Pa.  
 Morgan Construction Co., Worcester, Mass.  
 Robinson-Rea Mfg. Co., Pittsburgh.  
 Totten & Hogg Iron and Steel Fdry Co., Pittsburgh, Pa.  
 Trethewey Mfg. Co., Pittsburgh, Pa.  
 Waterbury Farrel Foundry & Mch. Co., Waterbury, Conn.
- Rolls, Chilled, Sand and Steel.**  
 Birmingham Iron Foundry, Birmingham, Conn.  
 Booth, The Lloyd Co., Youngstown, O.  
 East Chicago Fdry Co., Chicago, Ill.  
 Garrison, A. Fdry Co., Pittsburgh, Pa.  
 Robinson-Rea Mfg. Co., Pittsburgh, Pa.  
 Seaman, Sleeth & Black, Pittsburgh.  
 Totten & Hogg Iron and Steel Fdry Co., Pittsburgh, Pa.
- Roll Paper Holders.**  
 Streeter, N. R. & Co., Groton, N. Y.
- Roofing.**  
 Berlin Iron Bridge Co., E. Berlin, Conn.  
 Cambridge Roofing Co., Cambridge, O.  
 Cincinnati Corrugating Co., Piqua, O.  
 Canneberg Roofing Co., Canton, O.  
 N. Y. Iron Roofing & Corrugating Co., Jersey City, N. J.
- Rope and Web Goods.**  
 Covert Mfg. Co., West Troy, N. Y.  
 Covert's Saddlery Wks., Farmer, N. Y.
- Rope Wheels.**  
 Cresson, Geo. V. Co., Philadelphia, Pa.
- Rubber Goods.**  
 Canfield, H. O., Bridgeport, Conn.
- Rules, Manufacturers of.**  
 Keuffel & Esser Co., New York.  
 Stanley Rule & Level Co., 29 Chambers.
- Rust Preventive.**  
 Bridgeport Gun Implement Co., 318-315 Broadway, N. Y.
- Sad Irons.**  
 Enterprise Mfg. Co., Phila., Pa.  
 Streeter, N. R. & Co., Groton, N. Y.
- Sad Irons, Gas.**  
 Bolgiano Mfg. Co., Baltimore, Md.
- Sand Paper.**  
 Baeder, Adamson & Co., Phila., Pa.
- Sash Balances.**  
 Caldwell Mfg. Co., Rochester, N. Y.  
 Fullman Sash Balance Co., Rochester, N. Y.
- Sash Cords and Chains.**  
 Morton, Thos., 65 Elizabeth, N. Y.  
 Ossawan Mills Co., Norwich, Conn.  
 Samson Cordage Works, Boston, Mass.  
 Smith & Egge Mfg. Co., Bridgeport.
- Sash Fasteners.**  
 Weoster, F. V., Boston, Mass.
- Sash Locks.**  
 Columbian Sash & Door Lock Co., Wauseon, Ohio.
- Sash Pulleys.**  
 Palmer Hardware Mfg. Co., Troy, N. Y.
- Sash Weights.**  
 Brown, E. E. & Co., Philadelphia, Pa.  
 Norton Bros., Chicago, Ill.
- Saw Filing Machines.**  
 Diston, Henry & Sons, Philadelphia, Pa.
- Saws, Makers of.**  
 Atkins, E. C. & Co., Indianapolis, Ind.  
 Butler Mfg. Co., Boston, Mass.  
 Diston, Henry & Sons, Phila., Pa.  
 National Saw Co., 96 Reade St., N. Y.  
 Simonds Mfg. Co., Fitchburg, Mass.
- Saw Vises.**  
 Seneca Falls Mfg. Co., Seneca Falls, N. Y.
- Saw Sets.**  
 Taintor Mfg. Co., 84-86 Chambers, N. Y.
- Scales, Manufacturers of.**  
 Buffalo Scale Co., Buffalo, N. Y.  
 Chatillon, John & Sons, 85-89 Cliff, N. Y.
- Scrapers, Road.**  
 Am. Steel Scraper Co., Sydney, Ohio.  
 Sidney Steel Scraper Co., Sidney, O.
- Screen Door Braces.**  
 Clark, W. J. & Co., Salem, Ohio.
- Screens, Coal and Ore.**  
 Hendrick Mfg. Co., Ltd., Carbondale, Pa.
- Screw Cutting Machinery.**  
 Wells Bros. & Co., Greenfield, Mass.  
 Wiley & Russell Mfg. Co., Greenfield, Mass.
- Screw Drivers.**  
 Brown, R. H. & Co., New Haven, Conn.  
 Mayhew, H. H. Co., Shelburne Falls, Mass.
- Screw Plate and Pipe Cutter.**  
 Jarecki Mfg. Co., Erie, Pa.
- Screws, Makers of.**  
 American Screw Co., Providence, R. I.  
 Blake & Johnson, Waterbury, Conn.  
 Wm. H. Haskell Co., Pawtucket.  
 Miles, F. S., 205 Quarry, Philadelphia.  
 New England Screw Co., Boston, Mass.  
 Reynolds & Co., New Haven, Conn.  
 Worcester Machine Screw Co., Worcester, Mass.
- Scroll Saws.**  
 Barnes, W. F. & John, Rockford, Ill.  
 Seneca Falls Mfg. Co., Seneca Falls, N. Y.
- Seythe Stones and Whetstones.**  
 Pike Mfg. Co., Pike Station, N. H.  
 Cleveland Stone Co., Cleveland, O.
- Sewer Pipes.**  
 Sharon Clay Mfg. Co., Sharon, Pa.
- Shade Hangers.**  
 South, W. A. Co., Salem, Mass.
- Shaft Coupling.**  
 Columbian Novelty Co., North East Penna.
- Shafting, Makers of.**  
 Brown, A. & F., 17 Dey St., N. Y.  
 Cresson, Geo. V. Co., Philadelphia, Pa.  
 Fairmount Mch. Co., Philadelphia, Pa.  
 Sellers, Wm. & Co., Inc., Phila., Pa.  
 Stow Mfg. Co., Binghamton, N. Y.
- Shaft Support.**  
 Decatur Shaft Support Co., Decatur, Ill.
- Shaped Iron and Steel, Manufacturers of.**  
 Etna-Standard Iron & Steel Co., Bridgeport, O.  
 East Chicago Fdry Co., Chicago, Ill.

- Allentown Rolling Mill**, Allentown, Pa.  
**Lockhart Iron & Steel Co.**, Pittsburgh, Pa.  
**Passaic Rolling Mill Co.**, Paterson, N.J.  
**Pottsville Iron & Steel Co.**, Pottsville, Pa.  
**Roberts, A. & P. & Co.**, Phila., Pa.  
**The Phoenix Iron Co.**, Phila., Pa.
- Shears and Scissors.**  
**Acme Shear Co.**, Bridgeport, Conn.  
**Clauss Shear Co.**, Fremont, Ohio.  
**Heinrichs, R. Sons Co.**, Newark, N. J.
- Sheet Iron and Steel, Manufacturers of.**  
**Etna-Standard Iron and Steel Co.**, Bridgeport, O.  
**Cambridge Iron & Steel Co.**, Cambridge, Ohio.  
**Jersey City Galvanizing Co.**, 112 John St., N. Y.  
**Mahoning Valley Iron Co.**, Livingston, Ohio.  
**Morehead-McCleane Co.**, Pittsburgh, Pa.  
**Pierson & Co.**, 29 Broadway, N. Y.  
**Singer, Nimick & Co., Ltd.**, Pittsburgh, Pa.  
**The Mahoning Valley Iron Co.**, Youngstown, O.  
**Alan Wood Co.**, Philadelphia.  
**W. Dewees Wood Co.**, McKeesport, Pa.
- Sheet Zinc.**  
**Matthiessen & Hegeler Zinc Co.**, La Salle, Ill.
- Shelf Brackets.**  
**Atlas Mfg. Co.**, New Haven, Conn.  
**Stanley Works**, New Britain, Conn.
- Show Cases.**  
**Union Show Case Co.**, Chicago, Ill.
- Sinks.**  
**Douglas, W. & B.**, Middletown, Conn.
- Skates, Ice.**  
**Keene Mfg. Co.**, Keene, N. H.  
**Winslow, Saml.**, Skate Mfg. Co., Worcester, Mass.
- Skates, Roller.**  
**Henley, M. C.**, Richmond, Ind.  
**Union Hardware Co.**, Torrington, Ct.  
**Winslow, Saml.**, Skate Mfg. Co., Worcester, Mass.
- Slag Machines.**  
**Cambria Iron Co.**, Johnstown, Pa.
- Smelting Works.**  
**Reeves, Paul S.**, 760 S. Broad, Phila.
- Soldering Coppers.**  
**Glendenin Bros.**, Baltimore, Md.  
**Covert Mfg. Co.**, West Troy, N. Y.
- Soldering Furnaces.**  
**Burkess Soldering Furnace Co.**, Columbus, Ohio.
- Speaking Tubes.**  
**Ostrander, W. R. & Co.**, 204 Fulton St., N. Y.  
**Wollensak, J. F.**, Chicago, Ill.
- Spelter.**  
**Matthiessen & Hegeler Zinc Co.**, La Salle, Ill.  
**Missouri Metal Co.**, St. Louis, Mo.
- Spoons and Forks.**  
**Boardman, L. & Son**, New Haddam, Conn.  
**Holmes & Edwards Silver Co.**, Bridgeport, Conn.  
**Rogers, The Wm. Mfg. Co.**, Hartford, Conn.
- Sporting Goods.**  
**Hartley & Graham**, 313-315 E'way, N. Y.
- Springs.**  
**Clark & Cowles**, Plainville, Ct.  
**Colled Wire Belting Co.**, Jersey City, N. J.  
**Dunbar Bros.**, Bristol, Conn.  
**Miller & Van Winkle**, Brooklyn, N. Y.  
**Morgan Spring Co.**, Worcester, Mass.  
**Roland, Wm. & Harvey**, Phila., Pa.  
**Sabin Machine Co.**, Montpelier, Vt.  
**Washburn & Moen Mfg. Co.**, Worcester, Mass.  
**Wolf, R. H. & Co., Ltd.**, 118th St. and Harlem River, N. Y.
- Spring Hinges.**  
**Bommer Bros.**, Brooklyn, N. Y.  
**Chicago Spring Butt Co.**, Chicago, Ill.  
**Pullman Sash Balance Co.**, Rochester, N. Y.  
**Stover Mfg. Co.**, Freeport, Ill.  
**Van Wagoner & Williams Hdw. Co.**, 14 Warren St., N. Y.
- Stamping Works.**  
**Avery Stamping Co.**, Cleveland, O.  
**Cleveland Stamping & Tool Co.**, Cleveland, O.
- Staples.**  
**Cobb & Drew**, Plymouth, Mass.  
**Titchener, E. H. & Co.**, Binghamton, N. Y.
- Steam Gauges.**  
**Bristol Co.**, Waterbury, Conn.
- Steam Hammers, &c., Makers of.**  
**Dienelt & Eisenhart**, Philadelphia.  
**Dudgeon, Richard**, 24 Columbia Street, N. Y.  
**Trethewey Mfg. Co.**, Pittsburgh, Pa.
- Steam Heating & Oil Separators.**  
**Webster, Warren & Co.**, Camden, N. J.
- Steam Separators.**  
**Harrison Safety Boiler Wks.**, Phila., Pa.  
**Webster, Warren & Co.**, Camden, N. J.
- Steam Specialties.**  
**Lunkeneimer Co.**, Cincinnati, O.
- Steel, Cold Rolled Strip.**  
**Superior Steel Co.**, Pittsburgh, Pa.  
**Wilmot & Hobbs Mfg. Co.**, Bridgeport, Conn.
- Steel Figures and Alphabet.**  
**Krogerud, W.**, 61 Fulton St., N. Y.
- Steel Importers.**  
**Abbott, Wheelock & Co.**, N. Y. and Boston.  
**Hobson, Francis, Seaman & Co.**, 97 John St., N. Y.  
**Jessop, Wm. & Sons**, Sheffield, England, or 91 John, N. Y.  
**Milne, A. & Co.**, 1 Broadway, N. Y.  
**Newton & Shipman**, 83 John, N. Y.  
**Wetherell Bros.**, 93 Liberty St., N. Y.  
**Whitney, A. R. & Co.**, B'way, N. Y.  
**Wolf, R. H. & Co., Ltd.**, 118th Street and Harlem River, N. Y.
- Steel (Musher's Special).**  
**Jones, B. M. & Co.**, Boston.
- Steel Manufacturers.**  
**Etna-Standard Iron & Steel Co.**, Bridgeport, O.  
**Bethlehem Iron Co.**, S. Bethlehem, Pa.  
**Baker, Hermann & Co.**, 103 Duane St.  
**Carbon Steel Co.**, Pittsburgh, Pa.  
**Chester Steel Castings Co.**, Phila., Pa.  
**Chrome Steel Works**, Brooklyn, N. Y.  
**Crescent Steel Co.**, Pittsburgh, Pa.  
**Frankford Steel Co.**, Philadelphia.  
**Gautier Steel Department of Cambria Iron Co.**, Johnstown, Pa.  
**Hobson, Francis, Seaman & Co.**, 97 John St., N. Y.  
**Jessop, Wm. & Sons**, Sheffield, England, or 91 John, N. Y.  
**Kayser, Edison & Co.**, Sheffield, Eng.  
**La Belle Steel Co.**, Pittsburgh, Pa.  
**Lukens Iron & Steel Co.**, Coatesville, Pa.  
**Moorhead-McCleane Co.**, Pittsburgh, Pa.  
**Moss, F. W.**, 83 John, N. Y.  
**Pottsville Iron and Steel Co.**, Pottsville, Pa.  
**Bowland, Wm. & Harvey**, Frankford, Philadelphia.  
**Singer, Nimick & Co.**, Pittsburgh.  
**Superior Steel Co.**, Pittsburgh, Pa.  
**Valley Steel Co.**, St. Louis, Mo.  
**Wordlaw, S. & C.**, Sheffield, Eng.  
**Wetherell Bros.**, 93 Liberty, N. Y.  
**Wilmot & Hobbs Mfg. Co.**, Bridgeport, Conn.
- Steel, Manufacturers' Agents.**  
**Barns, C. K. & Co.**, Philadelphia, Pa.  
**Butze, Adolph**, St. Louis, Mo.  
**Corning, Edw. & Co.**, 29 E'way, N. Y.  
**Lindsay, Jas. G. & Co.**, Phila., Pa.  
**Pierson & Co.**, 29 Broadway, N. Y.
- Steel Rails, Manufacturers of.**  
**Bethlehem Iron Co.**, S. Bethlehem, Pa.  
**Cambria Iron Co.**, Johnstown, Pa.  
**Montour Iron & Steel Co.**, Danville, Pa.  
**Riverside Iron Wks.**, Wheeling, W. Va.
- Steel, Tool.**  
**Frankford Steel Co.**, Philadelphia, Pa.  
**Jessop, Wm. & Sons**, Sheffield, England, 91 John, N. Y.  
**Jones, B. M. & Co.**, Boston, Mass.  
**La Belle Steel Co.**, Pittsburgh, Pa.
- Step Ladders, Rolling.**  
**Bicycle Step Ladder Co.**, Chicago, Ill.  
**Cathryn Trolley Track Mfg. Co.**, Holyoke, Mass.  
**Croissant, M.**, Albany, N. Y.
- Stocks and Dies.**  
**Armstrong Mfg. Co.**, Bridgeport, Conn.  
**Billings & Spencer Co.**, Hartford, Conn.  
**Butterfield & Co.**, Derby Line, Vt.  
**Hart Mfg. Co.**, Cleveland, O.  
**Oster Mfg. Co.**, Cleveland, O.  
**Saunders' Sons, D.**, Yonkers, N. Y.  
**Wells Bros. & Co.**, Greenfield, Mass.  
**Wiley & Russell Mfg. Co.**, Greenfield, Mass.
- Stone Saws and Planers.**  
**Lincoln Iron Works**, Rutland, Vt.
- Stoves, Gasoline.**  
**Standard Lighting Co.**, Cleveland, O.
- Stove Linings.**  
**Ostrander Fire Brick Co.**, Troy, N. Y.
- Stove Pipe Thimbles.**  
**Cheney, S. & Son, Manlius**, N. Y.
- Stove Trucks.**  
**Gwinner Mfg. Co.**, Hamilton, Ohio.  
**Randall & Ward**, Le Roy, N. Y.
- Street Lamps.**  
**Rochester Lamp Co.**, 42 Park Place, New York.  
**Steam Gauge & Lantern Co.**, Syracuse, N. Y.
- Structural Iron Work.**  
**Berlin Iron Bridge Co.**, East Berlin, Conn.  
**Lindsay, Jas. G. & Co.**, Phila., Pa.
- Sulphuric Acid.**  
**Matthiessen & Hegeler Zinc Co.**, La Salle, Ill.
- Tacks, Brads, Staples, &c.**  
**Atlas Tack Corporation**, Boston, Mass.  
**Chess Bros.**, Pittsburgh, Pa.  
**Glendenin Bros.**, Baltimore, Md.  
**Cobb & Drew**, Plymouth, Mass.  
**Grand Crossing Tack Co.**, Grand Crossing, Ill.
- Taps and Dies.**  
**Butterfield & Co.**, Derby Line, Vt.  
**Carpenter, J. M.**, Tap & Die Co., Pawtucket, R. I.  
**Manning, Maxwell & Moore**, 111 Liberty St., N. Y.  
**Wells Bros. & Co.**, Greenfield, Mass.  
**Wiley & Russell Mfg. Co.**, Greenfield, Mass.
- Testing Laboratories.**  
**Riehle Bros. Testing Mach. Co.**, Philadelphia.
- Testing Machines.**  
**Riehle Bros. Testing Mach. Co.**, Phila.
- Theatrical Hardware.**  
**Wollensak, J. F.**, Chicago, Ill.
- Thill Springs.**  
**Frost Thill Spring Co.**, Boston, Mass.  
**Sabin Machine Co.**, Montpelier, Vt.
- Thrust Collars.**  
**Gouverneur Mach. Co.**, Gouverneur, N. Y.
- Time Record.**  
**Scattergood, H. W.**, Phila., Pa.
- Tin Plate Machinery.**  
**Lloyd Booth Co.**, Youngstown, Ohio.
- Tire Upsetters.**  
**Butts & Ordway**, Boston, Mass.
- Toe Calks, Steel.**  
**Burke, P. F.**, Boston, Mass.
- Tool Chests.**  
**Am. Tool Co.**, 200 W. Houston St., N. Y.
- Tool Holders.**  
**Armstrong Bros. Tool Co.**, Chicago, Ill.
- Tools.**  
**Brown, R. H. & Co.**, New Haven, Conn.  
**Mayhew, H. M. Co.**, Shelburne Falls, Mass.  
**Millers Falls Co.**, 93 Reade, N. Y.  
**Richardson, C. F. & Son**, Athol, Mass.  
**Standard Tool Co.**, Athol, Mass.  
**Stanley Rule & Level Co.**, 29 Chambers.  
**Starrett, L. S.**, Athol, Mass.  
**Stevens, J.**, Arms & Tool Co., Chicopee Falls, Mass.  
**Tower & Lyon**, 95 Chambers St., N. Y.
- Tools, Blacksmith and Wheelwright.**  
**Buffalo Forge Co.**, Buffalo, N. Y.  
**Butts & Ordway**, Boston, Mass.  
**Champion Blower & Forge Co.**, Lancaster, Pa.  
**Plumb, Fayette R.**, Philadelphia, Pa.  
**Wiley & Russell Mfg. Co.**, Greenfield, Mass.
- Tools, Steam and Gas Fitters'.**  
**Saunders' Sons, D.**, Yonkers, N. Y.
- Torches, Oil and Gasoline.**  
**Dangler Stove & Mfg. Co.**, Cleveland, O.  
**Schneider & Trenkamp Co.**, Cleveland, Ohio.
- Transom Lifters.**  
**Wollensak, J. F.**, Chicago, Ill.
- Trucks, Manufacturers of.**  
**Clark, G. P.**, Windsor Locks, Conn.
- Tubes, Seamless Drawn Copper.**  
**Ansonia Brass & Copper Co.**, 19 and 21 Cliff, N. Y.  
**Randolph & Clowes**, Waterbury, Conn.
- Tubes, Steel.**  
**Avery Stamping Co.**, Cleveland, O.  
**Leah's, John S. Son & Co.**, 4 Fletcher St., New York.  
**Shelby Steel Tube Co.**, Shelby, Ohio.  
**U. S. Projectile Co.**, Brooklyn, N. Y.
- Tumbling Barrels.**  
**Henderson Bros.**, Waterbury, Conn.
- Turnbuckles.**  
**Cleveland City Forge & Iron Co.**, Cleveland, O.  
**Merrill Bros.**, Brooklyn, E. D.
- Twist Drills, Makers of.**  
**Cleveland Twist Drill Co.**, Cleveland.  
**Moore Twist Drill & Machine Co.**, New Bedford, Mass.  
**New Process Twist Drill Co.**, Taunton, Mass.  
**Standard Tool Co.**, Cleveland.
- Valves, Gas, Water and Steam.**  
**Chapman Valve Mfg. Co.**, Boston.  
**Eynon-Evans Mfg. Co.**, Philadelphia, Pa.  
**Jenkins Bros.**, 71 John, N. Y.  
**Lunkeneimer Co.**, Cincinnati, O.  
**McNab & Harlin Mfg. Co.**, 56 John, N. Y.
- Ventilating Fans.**  
**Huyett & Smith Mfg. Co.**, Detroit, Mich.
- Ventilator Appliances.**  
**Howard & Morse**, 15 Fulton St., N. Y.
- Vise Jaws.**  
**Newark Mch. Tool Co.**, Newark, N. J.
- Vises.**  
**Hollands Mfg. Co.**, Erie, Pa.  
**Howard Iron Works**, Buffalo, N. Y.  
**Millers Falls Co.**, 93 Reade St., N. Y.  
**Parker, Chas. Co.**, Meriden, Conn.  
**Prentiss Vise Co.**, 44 Barclay, N. Y.  
**Tower & Lyon**, 95 Chambers St., N. Y.
- Wagon Jacks.**  
**Covert Mfg. Co.**, West Troy, N. Y.  
**Covert's Saddlery Works**, Farmer, N. Y.
- Washboards.**  
**Olds Wagon Wks.**, Ft. Wayne, Ind.
- Washers.**  
**Haskell, Wm. H. Co.**, Pawtucket, R. I.  
**Milton Mfg. Co.**, Milton, Pa.  
**Newbury, Jay Herbert**, Guilderland, N. Y.  
**Sternbergh, J. H. & Son**, Reading, Pa.
- Washing Machines.**  
**Olds Wagon Works**, Ft. Wayne, Ind.  
**Richmond Cedar Wks.**, Richmond, Va.
- Water Meters.**  
**Worthington, Henry R.**, 86 & 88 Liberty St., N. Y.
- Water Wheels.**  
**Poole, Robt. & Son Co.**, Baltimore, Md.
- Wheelbarrows.**  
**Amer. Steel Scraper Co.**, Sidney, Ohio.  
**Sidney Steel Scraper Co.**, Sidney, O.  
**Toledo Wheelbarrow Wks.**, Toledo, O.
- Window Cord, Makers of.**  
**Samson Cordage Works**, Boston, Mass.
- Wire, Manufacturers of.**  
**Gautier Steel Department of Cambria Iron Co.**, Johnstown, Pa.  
**Miller & Van Winkle**, Brooklyn, N. Y.  
**New Castle Wire Nail Co.**, New Castle, Pa.  
**New Haven Wire Mfg. Co.**, New Haven, Conn.  
**Salem Wire Nail Co.**, Salem, O.  
**Trenton Iron Co.**, Trenton, N. J.  
**Washburn & Moen Mfg. Co.**, Worcester.  
**Wetherell Bros.**, 93 Liberty St., N. Y.  
**Wolf, R. H. & Co., Ltd.**, 118th St. and Harlem River, N. Y.  
**Wright & Colton Wire Cloth Co.**, Worcester, Mass.
- Wire Cloth.**  
**Barnum, E. T.**, Detroit, Mich.  
**Clinton Wire Cloth Co.**, Clinton, Mass.  
**Darby, Edward & Sons**, Philadelphia.  
**Ester, W. S.**, 65 Fulton, N. Y.  
**Gilbert & Bennett Mfg. Co.**, 42 Cliff.  
**Howard & Morse**, 45 Fulton, N. Y.  
**Ludlow-Saylor Wire Co.**, St. Louis, Mo.  
**N. J. Wire Cloth Co.**, Trenton, N. J.  
**Scheeler & Sons**, Buffalo, N. Y.  
**Wickwire Bros.**, Cortland, N. Y.  
**Wright & Colton Wire Cloth Co.**, Worcester, Mass.  
**W. S. Tyler Wire Works Co.**, Cleveland.
- Wire Cutters.**  
**Higginum Hdw. Co.**, Higginum, Conn.  
**King, J. M. & Co.**, Watertown, N. Y.
- Wire Dies.**  
**McFarland, Wm.**, Trenton, N. J.  
**Newton & Shipman**, 83 John St., N. Y.
- Wire Fences, See Fencing, Iron and Wire.**
- Wire Goods, Manufacturers of.**  
**Bromwell Brush & Wire Goods Co.**, Cincinnati, Ohio.  
**Darby, Edward & Sons**, Phila.  
**Gilbert & Bennett Mfg. Co.**, 42 Cliff St., N. Y.  
**Ludlow-Saylor Wire Co.**, St. Louis.  
**Ossawan Mills Co.**, Norwich, Conn.  
**Scheeler & Sons**, Buffalo, N. Y.  
**Wickwire Bros.**, Cortland, N. Y.  
**Williamson, C. T.**, Wire Novelty Co., Newark, N. J.  
**Wire Goods Co.**, Worcester, Mass.
- Wire Machinery.**  
**Am. Tool Wks.**, Cleveland, O.  
**Manville, E. J. Mch. Co.**, Waterbury, Ct.  
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- Wire Straightening and Cutting Machinery.**  
**Adt, John & Son**, New Haven, Conn.
- Wire Nails.**  
**Bond Nail Co.**, Raynham, Mass.  
**Indiana Wire Fence Co.**, Crawfordsville, Ind.  
**Kilmer Mfg. Co.**, Newburg, N. Y.  
**New Castle Wire Nail Co.**, New Castle, Pa.  
**Phillips, Townsend & Co.**, Phila., Pa.  
**Salem Wire Nail Co.**, Salem, O.  
**Taunton Wire Nail Co.**, Taunton, Mass.  
**Whitney, A. R. & Co.**, New York City.
- Wire Rods, Steel.**  
**New Castle Wire Nail Co.**, New Castle, Pa.  
**Washburn & Moen Mfg. Co.**, Worcester, Mass.  
**Whitney, A. R. & Co.**, 17 B'way, N. Y.  
**Wolf, R. H. & Co., Ltd.**, 118th Street and Harlem River, N. Y.
- Wire Rope, Iron and Steel, Makers.**  
**Broderick & Bascom Rope Co.**, St. Louis, Mo.  
**California Wire Works**, San Francisco.  
**Hazard Mfg. Co.**, Wilkesbarre, Pa.  
**A. Leschen & Sons Rope Co.**, St. Louis.  
**Trenton Iron Co.**, Trenton, N. J.  
**Washburn & Moen Mfg. Co.**, Worcester, Mass.
- Wire Rope Machinery.**  
**Kay, J. F.**, Passaic, N. J.
- Wood Turning.**  
**Cleveland Wood Turning Co.**, Cleveland, O.
- Wood-Working Machinery.**  
**Fay, J. A. & Co.**, Cincinnati, O.  
**Seneca Falls Mfg. Co.**, Seneca Falls, N. Y.
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**Bemis & Call Hardware & Tool Co.**, Springfield, Mass.  
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**Coes Wrench Co.**, Worcester, Mass.  
**Tower & Lyon**, 95 Chambers St., N. Y.  
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- Wringers.**  
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- Yacht Hardware.**  
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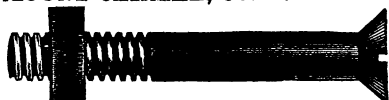
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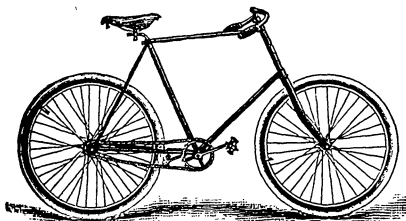
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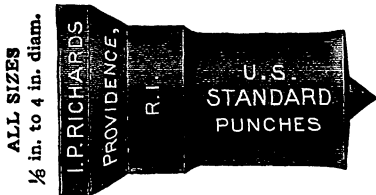
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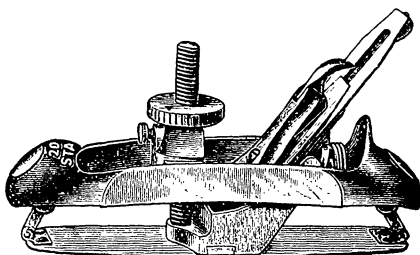
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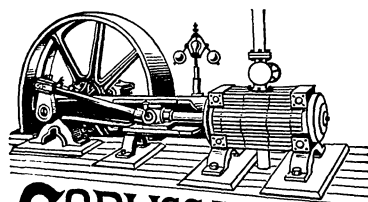
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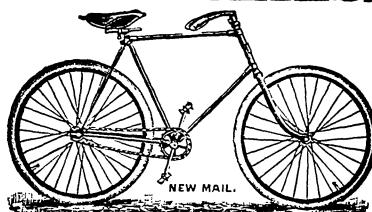
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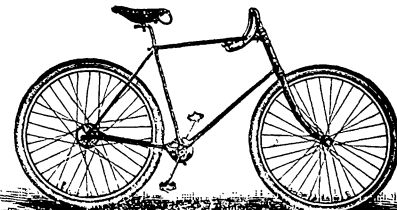


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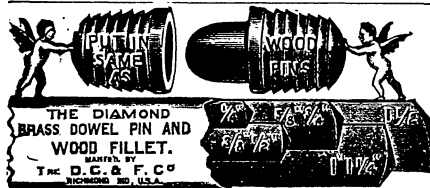
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# THE IRON AGE

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## The Hawdon Slag Machine.

For a number of years there have been in use in the Middlesborough district, England, a number of machines for handling the slag from blast furnaces, designed by William Hawdon, the well-known engineer.

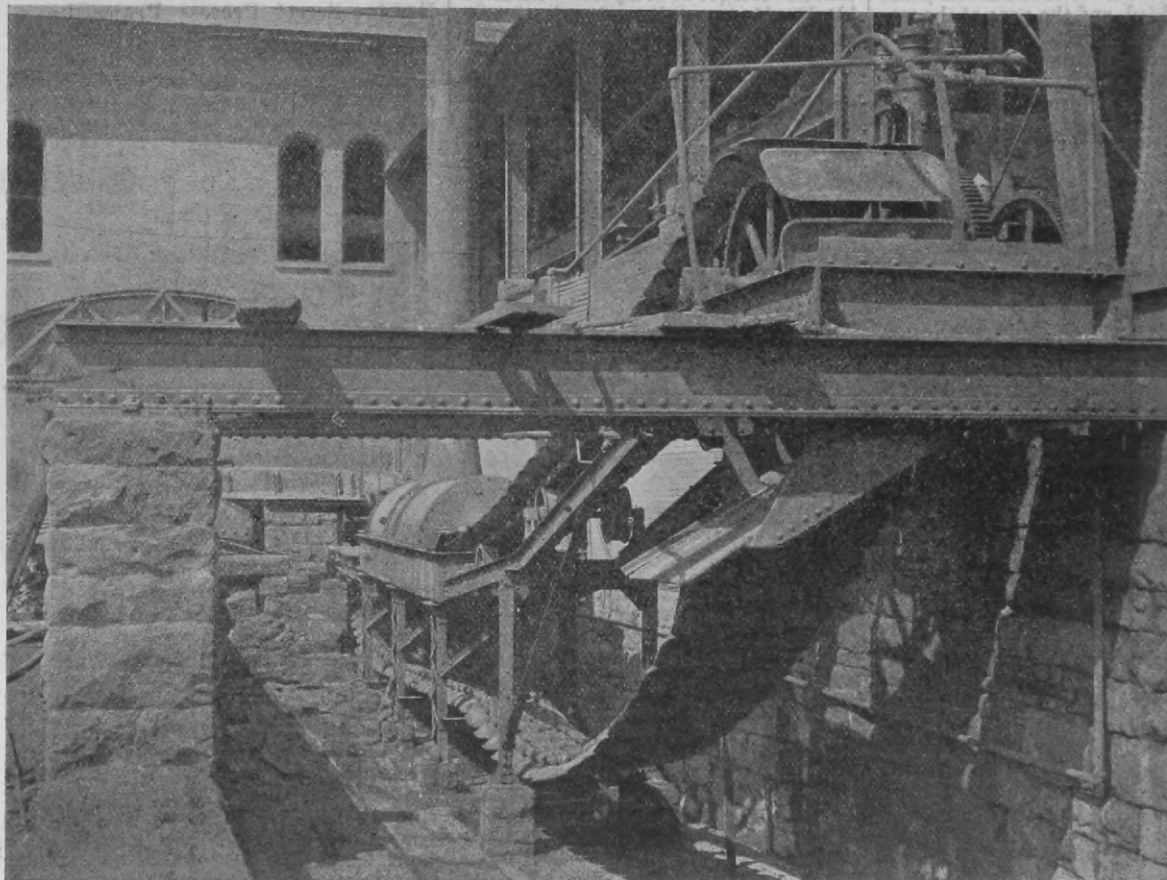
Hitherto the removal of slag from the blast furnace has been a difficult, costly, and somewhat unmechanical process, and has been accomplished in various ways. Sometimes it is merely run from the furnace into large holes dug in the sand, in the center of which a

cost. Locomotives, especially, suffer very much from the grit, which sticks to all working parts, and from the unevenness of temporary roads on the slag dump.

The Hawdon machine aims to do away with these drawbacks. As will be seen from the accompanying engravings the machine consists of an endless chain carried on rollers on which are placed a series of overlapping shallow pans into which the slag flows. The pans are made to dip into a water trough and the surface of the slag is sprayed until it is finally delivered into a chute for removal. Our engraving is

The room required for one machine is 8 feet wide by 80 to 100 feet long, according to capacity. There should be room for a standard gauge track alongside the machine, with sufficient track room upon which to store and handle the slag cars. A part of the waste water from the waste trough or tuyeres is all that is required for one machine, or about the flow of a 1-inch pipe under a head of 25 feet.

Repairs are trifling. The machine at the Cambria Iron Company's Works has not yet needed any repairs after about six months' use, and its condition is still good.



THE HAWDON SLAG MACHINE AT No. 6 CAMBRIA FURNACE.

bar has been placed, and when the slag is cooled a crane is attached to the bar, and the lump lifted out of the whole and carried away on trucks. This entails a good deal of labor in clearing away the *débris*, breaking the slag up from around the center bar, and much shifting about is necessary in getting empty cars into position, replacing the crane, &c., and it can at best only be done where a small amount of slag is dealt with, and even then at great unnecessary cost.

A more general plan is that with fixed or loose cast iron boxes and iron cars. The first cost of these is heavy, and the cost of renewals and repairs very heavy indeed; the destruction of railway and rolling stock from burst balls is considerable, not to mention the labor of clearing away the same. On the slag dump the destruction of rails and ties is also a heavy item of

prepared from a photograph of one of these machines which has been in operation during the past nine months at No. 6 Furnace of the Cambria Iron Company, at Johnstown, who are the agents in this country for the machine. They report concerning the cost, the maintenance and the saving effected in the following manner:

Arrangements have been made with the firm of Heyl & Patterson of Pittsburgh whereby a standard machine will be erected for \$4,400 for the first, and \$1,300 for the second and each additional one, complete and in running order, exclusive of foundations, which latter should not cost more than \$300, where the bottom is good and no extra depth or footing is necessary. The above figures include royalty, but not the necessary arrangements for delivery of slag to the conveyor nor tracks for removing it.

The value of the slag depends upon local demand for such material and the character of the slag. It can be used for railroad ballast, road material, or in concrete for building foundations. The Cambria Iron Company have used it for all these purposes, and have sold some at about ten cents per ton. As the surface of the slag is set before receiving any quantity of water, the cakes are solid and not spongy, nor the slag granulated, in one or the other of which conditions it would be if treated with water when molten.

The capacity of the machine depends upon the speed of working and the amount of cooling water used, but there is no difficulty in taking care of the slag from the largest furnaces with one machine. Iron from the cinder notch can be caught in small pockets in the runner between the furnaces and the machine.

The cinder notch should be made

small enough to allow the operation to be as nearly continuous as possible. With a small notch the machine may be much smaller than if large flushes are made in short time. By making the flushing extend over a longer period of time, the convenience of handling slag in the machine and cars is greatly increased, as compared with the opposite practice, and at the same time no additional difficulties are encountered. At the Cambria Iron Company's No. 6 Blast Furnace 200 tons of slag per day of 24 hours are discharged through a notch 1-inch diameter, and loaded into cars by the Hawdon machine. The total time the machine is in actual operation is about 12 hours out of 24 hours. At the Cambria Iron Company's blast furnaces the cinder runs are 110 feet long with a fall of  $\frac{3}{4}$ -inch per foot. The slag from furnaces running on Bessemer pig can be run without difficulty 100 feet with fall of 30 inches in this distance. The bottom of the run at the cinder notch should be about on a level with the bottom of the notch. The fall at this point is to be avoided, and the pans of the machine just clear the bottom of the delivery spout, which is a water-cooled casting three inches thick, the distance from the inside of the spout to the bottom of the pans being seven inches, making

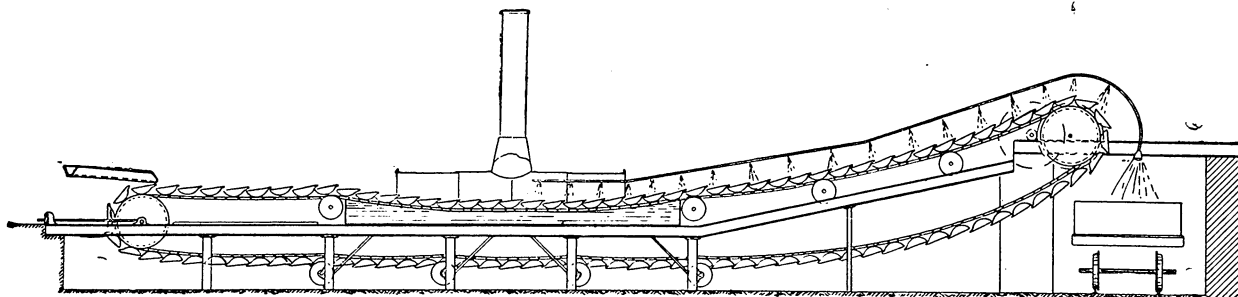
ened, as fewer men can do the work with greater comfort than when dumping large blocks of hot slag which have to be wedged and pried from the cars. The dumping gang lays and maintains the track on the dump proper and this work is greatly lessened as compared with that necessary when handling hot slag, which, in spite of all precautions and care, rapidly destroys the rails and ties. It is found that with machine slag one man can be dispensed with per turn, making a saving of two men per 24 hours, which, at \$1.25 per turn, amounts to \$750 per year of 300 days. With hot slag it is necessary to use on the dump iron or steel ties, the life of which only averages one year, while the dump rails last less than six months. With machine slag, ordinary wooden ties may be used and the track is only subject to wear. The saving due to this item amounts to at least \$450 per year.

It should be noted that the machine slag, when used for filling, has important advantages as compared with large blocks of hot or molten slag, in that it can be dumped anywhere. It does not require a high bank to dump upon, besides which it makes a more compact bank than one composed of large blocks which form voids in the fill.

To this must be added the revenue from the sale of the slag, depending on the locality. This estimate of savings is pronounced conservative, and shows that the machine has advantages over the present method of handling slag in iron cars, which latter method has been considered economical heretofore. As compared with the method of running the slag in drills or runs made in the ground, watering and forking into cars, as now practiced in many places, the machine can show a much greater saving, especially in furnace labor. At least six cinder snappers are required per turn for watering and forking the slag, making runners, &c., who would be replaced by one man and a boy. The wages of six cinder snappers per turn at ten cents per hour, amounting to \$14.40 per day, against which one man at ten cents per hour and one boy at 80 cents per day, cost \$4 per 24 hours, making a saving of \$10.40 each 24 hours, or \$3120 per year on furnace labor alone.

#### Russian Secret Process Projectiles.

The London *Engineer* has been endeavoring to ascertain what are the features of the Russian projectiles, manufactured by a secret process, which



SECTION OF THE HAWDON SLAG MACHINE.

the total fall in 100 feet from the notch to the pans 37 inches.

At the Cambria Iron Company's No. 6 Furnace, before using the Hawdon machine, 16 four-wheeled iron slag cars were necessary. These cars cost \$400 each, and cost annually \$55 each for repairs. The iron cars hold  $5\frac{1}{2}$  to 6 tons of slag each, some being end and some side dump for convenience in making the fill. Four-wheeled dump cars for cooled slag from the machine cost but \$250 each, and, as they hold 12 tons, only eight are needed in place of 16 iron cars. The repair cost of wooden cars is \$25 per year per car. Thus the capital invested in iron cars for one furnace with a capacity of 250 tons iron per day, making 200 tons of slag, \$6,400, and the yearly repairs amount to \$880, or the yearly interest and repairs would be \$1264. On the other hand, where a slag machine is used, the eight dump cars necessary cost \$2000, and the repairs on same, at \$25 each per year, is \$200. With a machine costing about \$4500 and cars costing \$2000, the total capital in this part of plant is \$6500. From experience with slag machine at the Cambria Iron Company's No. 6 Blast Furnace, it is estimated that the annual repairs, with proper care, will not exceed \$250. Thus the total interest and repairs on machine and dump cars is \$840, or a saving from this source of \$424 per year.

Owing to the fact that the slag from the machine is cooled and in small pieces, the labor of dumping is less-

The 'machine slag dump or fill, although more compact on account of the smaller size of the pieces, can be more easily excavated than one composed of large blocks, part of which have run out and solidified in place. This is important where excavations for foundations may subsequently have to be made. Where slag dumps are high, say 50 to 80 feet, the saving in dumping machine slag as compared with blocks is not so great, for the reason that on high dumps the material more readily clears and keeps away from the tracks and more dumping can be done without extending the track. This saving in dumping machine slag as compared with the old method is greater on low dumps, say up to 25 feet, and is greater the lower the dump.

With the Hawdon machine one man and one boy per turn do all the work connected with loading the cars at the furnace. With iron cars this work requires two men all the time and one man part of the time, and the saving at this point by use of the machine amounts to \$1.20 per day, or \$360 per year of 300 days.

The following summary of yearly savings by use of the slag machine as compared with the use of iron slag cars is presented:

Saving car repairs.....	\$424.00
Saving labor on dump.....	750.00
Saving maintenance of way on dump.....	450.00
Saving furnace labor.....	360.00
Total operating saving per year.	\$1,984.00

gave such remarkable results at the recent Ochta trials. Our contemporary says:

We soon ascertained that the shot were kept from inspection before firing as well as after recovery. This bore out our conjecture that a false point had been added on the apex of the shot. We made a sketch, which we did not publish, but sent elsewhere, of the device which we thought was probably employed, namely, a sharp, hard steel point, such as would break into the skin of the treated plate, and probably be shattered and projected to a distance or carried through by the shot. The wood screen might be used to detect if the latter took place. To-day we have a letter from Captain Tresidder, who represented Messrs. Brown at the trial. He incloses a paper containing such data as he was allowed to note, and which are not confidential, which he is contributing to the professional papers of his old corps, the Royal Engineers. Naturally Captain Tresidder was not allowed to see the projectiles, but his impressions acquired when attending the trial and his judgment are of special value. The data as to velocity, &c., are not worth giving here, because striking velocity was not always recorded and may be said to be fairly represented by the velocities we gave, namely, 1850 foot seconds for the 6 inch plate and 2400 for the 10-inch. The effects on the plates were also sufficiently given in our previous articles. We now learn, however, the interesting

fact that an ordinary and secret process shot fired at a tough homogeneous 10-inch steel plate gave in each case about 12 inches to 13 inches penetration. Seeing that the secret process shot continually perforated the treated plates, while the ordinary shot, under corresponding circumstances, broke up, it is clear that this secret process is effectual mainly in preventing the projectile from shivering against the hard skin of the treated plate. We now come to Captain Tresidder's conjecture as to the secret process projectiles. He considers, without question, that they have false points or caps fixed on their apices. They have been called magnetic shot. We did not take any notice of this

would be seen in front of the target—unless a man were sent out to pick them up, which could hardly escape observation. Captain Tresidder may, however, be correct in believing that a soft steel cap is used, and he mentions in support of his view that from the head of the secret process shot which was embedded in the tough, homogeneous plate, there was visible "a strip of soft iron or steel, as if the cap had been carried into the plate and a strip had been squeezed from it to the rear." He adds that, by an accident, "a momentary glimpse of a certain object was obtained, which was bright, of iron or steel, about 4 inches or 5 inches long, and pointed at one end; and there can

weighing 93.324 pounds if the velocity were only 2350 foot seconds. This gives about  $3\frac{1}{4}$  pounds as the weight of the cap. It agrees with the apparent weight of the object seen."

#### Reversible Face Plate Jaws.

The Skinner Chuck Company of New Britain, Conn., have recently added to their products a line of new reversible face plate jaws adapted for use on large lathe face plates, boring mills and drill presses, and machines of too great capacity for the use of chucks. These jaws consist of a heavy cast iron body with a movable reversible jaw, and a set

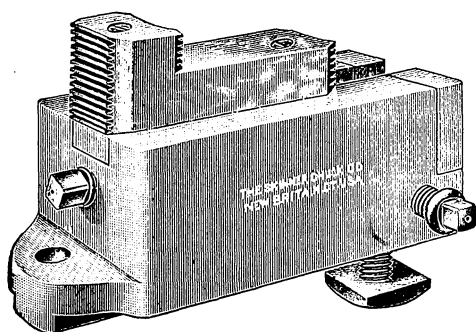


Fig. 1.—Outer End and Side View of Jaw.

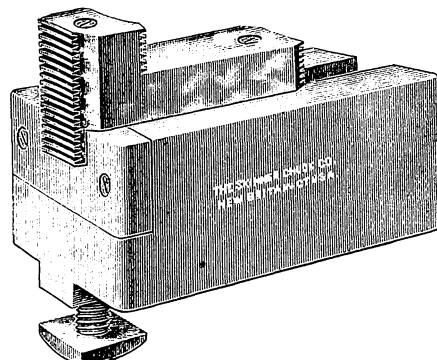


Fig. 2.—Inner End with Jaw in Reversed Position.

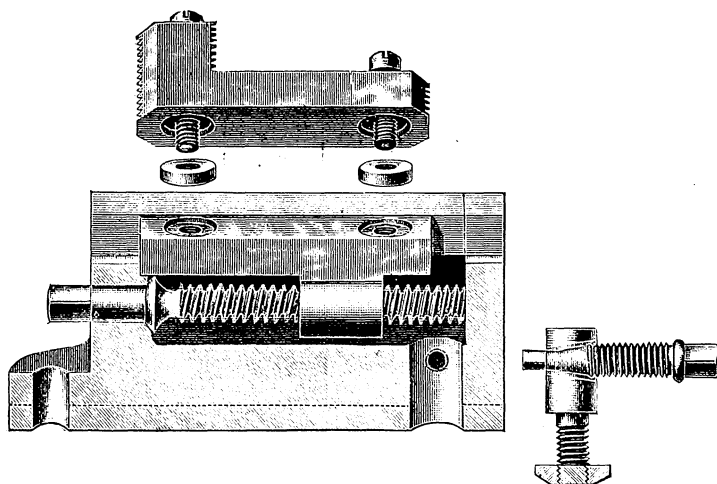


Fig. 3.—Sectional View of Jaw.

#### THE SKINNER REVERSIBLE FACE PLATE JAWS.

word, as we regarded it as a blind. Captain Tresidder views it in much the same way, but suggests that magnetism may have been employed to hold the cap to the smooth apex of the shot, at all events in some instances. He thinks that cap is of wrought iron or very mild steel. We have thought it probable that hard steel was used. The account we had received of the effect previously produced by small projectiles on a treated plate, and the absence of recovered fragments, seemed to us to point to this conclusion. Wrought iron we hold to be out of the question, because we know that its normal behavior is to extend into a ring and to be left in front of the face of the plate. This action might not take place always, but certainly it would occur repeatedly when so many rounds were fired; and wrought iron does not rebound, and so some distorted caps

be little doubt it was one of the caps. The point was probably to reduce resistance in flight."

If further evidence as to the existence of a cap or false point is needed it is found in following the fact stated by Captain Tresidder. "After the first two rounds at the 10-inch plate the velocities were chalked on the plate, 2350 (estimated) against the capped shot and 2393 (observed) against the uncapped one. It was asked why the unobserved velocity was not estimated to agree with the observed one, the charges being the same. The reply was that the energies were alike. This meant that the weights were different, as of course would be the case if one shot carried a cap and the other did not. Now, the energy of a 90 pound shot at 2393 foot seconds being 3573.9 foot tons, it is easily calculated that the same energy would require a shot

of these jaws properly mounted on a face plate are a perfect substitute for a large independent jaw chuck. Fig. 1 of the accompanying engravings shows the outer end and side view of one of the jaws; Fig. 2 shows the inner end and the movable jaw in a reversed position; Fig. 3 is a sectional view of the jaw, with the parts of the movable jaw separated, showing the construction and method of reversing and also the bolts and nut for clamping the inner end of the jaw. This device for clamping the inner end of the jaw is one of the more recent improvements, and it is stated that with this arrangement it is possible to attach, remove, or change the position of these jaws quicker than any other.

The jaws are intended to be fitted to the T-slots of the face plate of the table of the machines on which they are to be used. A rib  $1\frac{1}{4}$  inches wide is on the bottom of the jaws, and this is planed down to fit the T slot of the plate. In placing the jaws on the plate the adjustable nut on the vertical bolt near the inner end of the jaw is placed so that there is only play enough to allow the jaw being placed in the proper position on the plate for clamping, when a slight turn of the nut on the side of the jaw fastens it. The square headed taper bolt which is shown at the side of the jaw passes through the taper socket in the vertical bolt, thus securing the jaw to the plate at the inner end of the jaw. The outer end of the jaw is held in place by a common T-head bolt. It has been the custom to clamp the inner end of the jaws in a similar manner to that used at the outer end, but the objections are that the lug on the inner end of the jaw prevents the jaw being placed close to the work being held on the plate, or, if the lug is omitted on the inner end and the bolt put in a pocket at the inner end of the jaw, it is very inconvenient when four of these jaws are arranged around the center of a plate to get at the inner bolt to clamp the jaws, and a special wrench is neces-

sary. In this jaw both these objections are overcome. The movable jaw is reversed by removing two screws and turning the upper section of the jaw end for end on the lower section. The strain of holding is taken by the hardened steel dowels. This jaw is similar in construction to the patent reversible jaws used in the Skinner lathe chucks. The jaws, screws and bolts are all made of steel and case hardened. All necessary bolts and wrenches are furnished with the jaws, which are designed to be used in sets of three or four.

#### The Ohio Steel Company.

The Mahoning Valley, as one of the great iron-producing districts of the West, developed rapidly since it possessed advantages which secured to it low cost of production. A number of flourishing mills have grown up, which make the leading lines of rolling mill products and also produce a series of specialties. They are, in fact, the largest iron mills in the country, but none of the plants compare in size with the great steel works of the land. Now that for the great mass of material produced steel has taken the place of iron, it has become a necessity for the Mahoning Valley producers to place themselves in a position where they can control cheap steel. Recognizing this, the leading rolling mills in the Mahoning Valley, and capitalists bound up with the prosperity of the district, organized the Ohio Steel Company of Youngstown, Ohio, Henry Wick being president, J. G. Butler, Jr., vice-president and W. H. Baldwin, secretary. Julian Kennedy was appointed consulting engineer and Thomas McDonald, formerly of the Duquesne Works, became superintendent. A representative of *The Iron Age* had occasion to visit the plant recently and gathered the following data:

The cupola house is equipped with four large cupolas. Special facilities are provided for dropping the cinder, &c., into cars. Two stock elevators serve the cupolas. The iron is run into a ladle on a car, which is conveyed to the converters. The latter are placed back to back, blowing in opposite directions. Provision has been made for room for two spiegel cupolas and for a ferro preheating furnace. The converters, which are 9 feet 6 inches clear in the shell, are proportioned so that heats of 10 tons up to 12 tons can be blown. Bottoms are changed with the aid of a stationary hydraulic jack. The platform upon which the bottom car is run is large enough so that the men changing bottoms have room to work on it, an arrangement which will facilitate speed in changing bottoms.

Between the two converters is located a 20 ton ladle crane, the blow being cast direct into the ladle. The crane, which is of the Kennedy type, is revolved by hydraulic pinion and rack, and was built in the shops of the company. The plan is to cast direct from this ladle into ingots on cars on the track. On the jib a rack is provided giving sufficient movement to cast four ingots without moving the cars.

The ladle crane is flanked by two 10-ton power cranes, one of which is to be used to handle any wreck. The other is to be employed for changing ladles. Beyond is a 6 ton cradle for handling the ladles. It adjoins a ladle drying house, 54 x 25 feet, in which will be placed drying ovens designed by Mr. McDonald. The oven consists of a vertical cylinder shell

provided with a grate into which the fuel will be charged. A bottom blast will convey the hot products of combustion to two hoods under which the ladles will be placed for drying.

The Bessemer plant is practically completed. Parallel to it is placed the pump house, 52 x 227, in which is located an E. P. Allis cross compound horizontal blowing engine, with 40-inch high pressure and 78-inch low pressure cylinders, and 60-inch stroke, the two blowing tubs being 60 x 60 inches.

In the same building are three Barr high pressure pumps, fully described in *The Iron Age*; two Wilson-Snyder feed pumps and two Hall tank pumps. The electric plant consists of two 250 horse power generators, driven by two 300 horse-power Salem engines. A Nordberg 200 horse-power engine drives the three No. 12 Buffalo blowers for the cupolas.

The plant is equipped with two boiler houses, No. 1, located parallel to the rolling mill, having 2048 horse-power National water tube boilers. The coal is elevated and is distributed by conveyors to bins from which it is fed to Murphy stokers. No. 2 boiler house has a battery of National boilers of 1330 horse-power aggregate, the boilers being hand fired. The general arrangement, however, is such that automatic coal handling and Murphy stokers may be put in. The stack of No. 1 boiler house is 162 feet high, above yard level, while that of No. 2 is 155 feet high. Between the two boiler houses is located a plant of six gas producers for the pit furnaces.

In close proximity to the Bessemer plant is the building for refractory materials. It contains four drying ovens, served by a 12 ton power crane. For grinding refractories there is a crusher, manufactured by the National Machinery Company, placed above a Carlin dry pan, from which the ground material is discharged into the boot of an elevator, which conveys it to bins in the main building. This part of the plant is driven by an 80 horse-power Russell engine.

The ingots, as they stand on the cars on which they have been cast, are carried to the stripper building, in which is to be located a double Aiken stripper of recent design. A hydraulic car shifter, which will shift two cars on the two tracks in the stripper building, is one of the features of this part of the plant.

In direct line is the first part of the rolling mill proper. The first departments are the pit furnaces, room being provided for four of them. Of these two are approaching completion, while the excavations for one have been begun. The fourth will be built if the emergency should arise. The pits are arranged for the standard size of ingot adopted, viz.: 18 x 22 inches, 60 inches long, weighing 2½ tons. The pit furnaces are to be commanded by a Morgan electric crane of 52 feet span. The ingots will be handled by a rigid bar with rack movement, at the end of which are heavy tongs which can be revolved by the crane manipulator. The tongs are opened and closed by a mechanism operated by compressed air. The latter will be furnished by a compressor driven by a small motor located on the crane.

The ingots when taken out of the pits are delivered by a car with a tilting gear to the table of the 34-inch reversing bloom mill. The mill is driven by a direct coupled 45 x 72 inch duplex reversing Tod engine, designed by Ju-

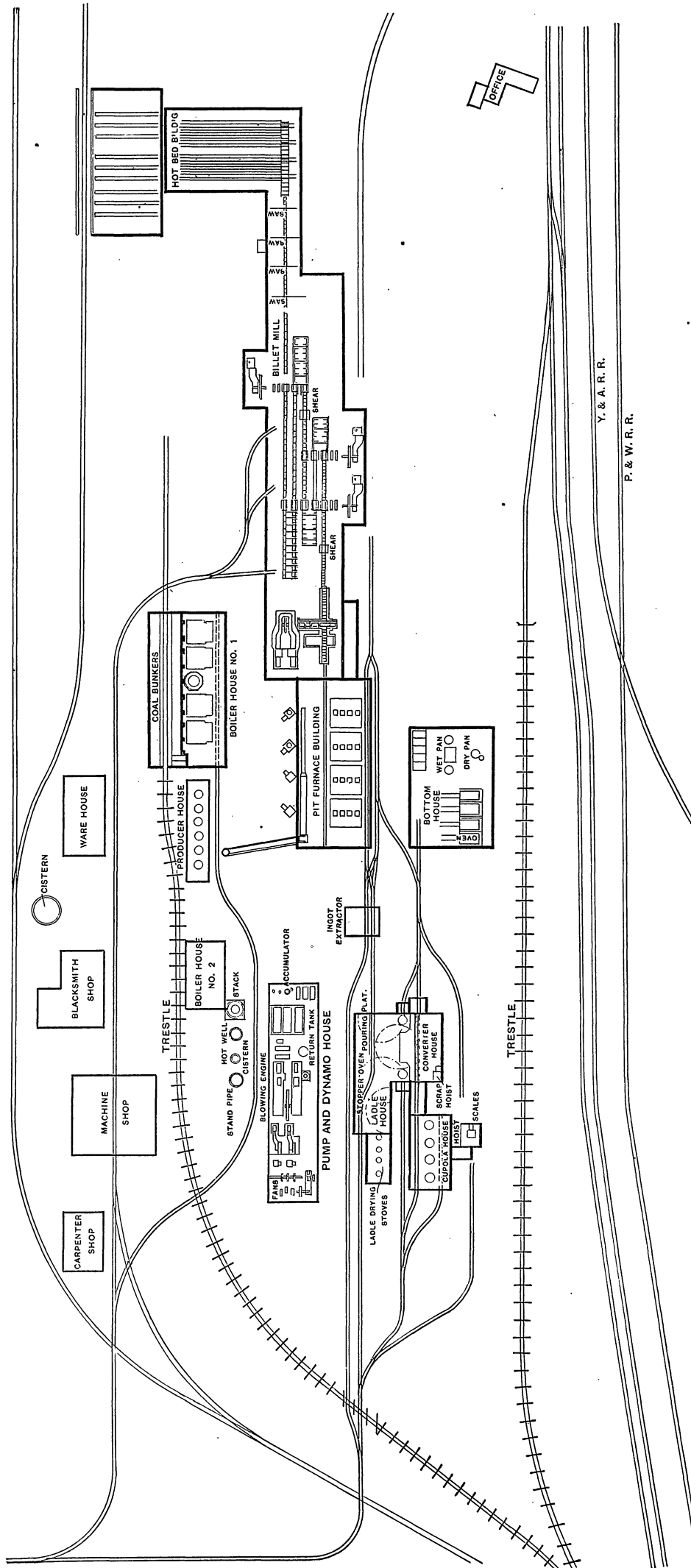
lian Kennedy, the principal feature of novelty of which is the overhang of the crank. The 12 inch piston rod is continued through the back of the cylinder and is bored out 8 inches. It has a 14-foot fly wheel and hydraulic reversing gear. The closed housing was built by the Lloyd Booth Company of Youngstown. The blooming mill tables, also built by the same firm, are driven by a Crane engine. The plan is to reduce the ingots to 6½ x 7 inch blooms, in 13 passes. The blooms are carried to a 30 inch hydraulic shear, a very heavy tool, built by the Lloyd Booth Company, where they will be carefully sheared to weight.

The blooms are then conveyed to the 23 inch billet mill, which consists of three trains of rolls, the first having five stands and the other two each three stands of rolls. The first train is driven by a 46 x 60 inch Tod engine, while the second train is driven by a 40 x 60 Tod engine placed in line with it. The Tod engine, also 40 x 60, which drives the third train, is on the opposite side of the mill. The bloom enters the first pass of No. 1 train and passing through goes over a driven table to the first stand of No. 2 train, in line with the first stand of No. 1 train. A Huber transfer table transfers the bar to the second stand of rolls in No. 2 train, making this the third pass. The transfer table mentioned was invented by S. V. Huber of Pittsburgh, of the engineering staff of Julian Kennedy. Its principal merit is that it operates even when one piece is being delivered from the mill, while a second is being transferred and a third is still in the following pass. Thus all delays are avoided.

After the third pass in No. 2 train, second stand of rolls, the bar enters the second stand of No. 1 train. Again a Huber transfer table delivers it sideways to the third stand of rolls of No. 1 train. This fifth pass delivers it direct to the third stand of rolls in No. 2 train, thus finishing the functions of the latter. Coming out of the sixth pass a 16 inch hydraulic shear is interposed between it and the first stand of rolls of No. 3 train. Then again a Huber table transfers the piece laterally to the second stand rolls in No. 3 train, and returning on its course the bar goes through the eighth pass, from which it is delivered by roller tables to the fourth stand of rolls on No. 1 train in line with the second stand of No. 3 train. After the eighth pass a transfer table of different design slides it to the fifth stand of No. 1 train, thus constituting the tenth pass. Carried forward, the piece goes through the third stand of No. 3 train, this making the eleventh and last pass, which brings the billet 1½ square, about 90 feet in length. It is carried to the saws, four of which are driven by a 14 x 16 McEwen engine. The designers have utilized in an extensive manner the electric motor for driving isolated machinery. In all there are 13 motors. Laterally from the mill extends the hot bed building from which the billets are delivered to the shipping tracks.

The rolling mill building is a splendid structure 750 feet long by 75 feet span. It is commanded from end to end by a Morgan electric crane, the one in use being one which was used in Machinery Hall at the World's Fair. The mill is so laid out that it can quickly be diverted to the manufacture of rails should trade conditions make such a course desirable.

At the time of the visit of the representative of *The Iron Age* the foundations for the billet mill were approach-



GENERAL PLAN OF THE WORKS OF THE OHIO STEEL COMPANY, YOUNGSTOWN, OHIO.

ing completion, and a large part of the machinery was on the ground. It is probable that the plant will be in full operation toward the close of the current year. Its work will be watched with keen interest, since it embodies the very latest developments of American practice. The officers of the company are not committing themselves to any estimate of its capacity, but it is probable that it will be in the neighborhood of 1200 to 1400 tons per day. It will of course depend on the character of the work which it will be called upon to perform. It is equipped to produce a wide range of sizes of billets, slabs and sheet and tin plate bars, and, as we have already mentioned, may in its history become a large producer of rails and structural steel.

#### Progress in Galvanizing.

To correct any misapprehension that may arise from an article published in *The Iron Age* of June 28, we print below a letter received from the McDaniel & Harvey Company, Philadelphia, through their president, H. Whiteley:

In *The Iron Age* of June 28, in the article headed "Progress in Galvanizing," descriptive and laudatory of the Bayliss apparatus, we notice the following: "One of these machines is now being placed in the works of the oldest galvanizing concern in this country." As our concern is universally acknowledged the oldest galvanizers of sheet iron in this country, having begun in 1852, there can be no doubt but that we are the concern referred to. When the article was written it was doubtless true that one of these machines was being placed in our works. We gave the machine a trial and rejected it for inefficiency and non-fulfillment of the claims made for it. We would never have made any public announcement of this fact were it not for the unmistakable but entirely unauthorized public reference to ourselves in that article, and the attempt thereby to make capital for the machine out of our apparent indorsement and to use us as an advertisement. This compels us to publish the results in order to relieve ourselves of all complicity in that statement, and that no one may be led to purchase the machine under the belief that we are using it. The facts are that we made a trial of one of these machines which Mr. Bayliss erected in our works on approval. We found its performance fell short of the guarantee in speed, output, quality and appearance. We notified Mr. Bayliss to that effect and took out the machinery, which we now are holding here subject to his order and awaiting shipping instructions.

At Philadelphia, on the 10th inst., proceedings were begun in the United States Circuit Court by the Union Switch & Signal Company of Swissvale, Pa., and the Fidelity Title & Trust Company of Pittsburgh, against the National Switch & Signal Company of Allentown, Pa., Oakleigh Thorne, its president, and Charles Hansel, its vice president and general manager, for alleged infringement on patented improved apparatus owned by the complainants. James T. Hambay, it was stated, had patented improvements on two previous inventions and had assigned his patents to the Union Switch & Signal Company. The sole right to the inventions is claimed by the plaintiffs, and it is contended that they constitute important elements of a

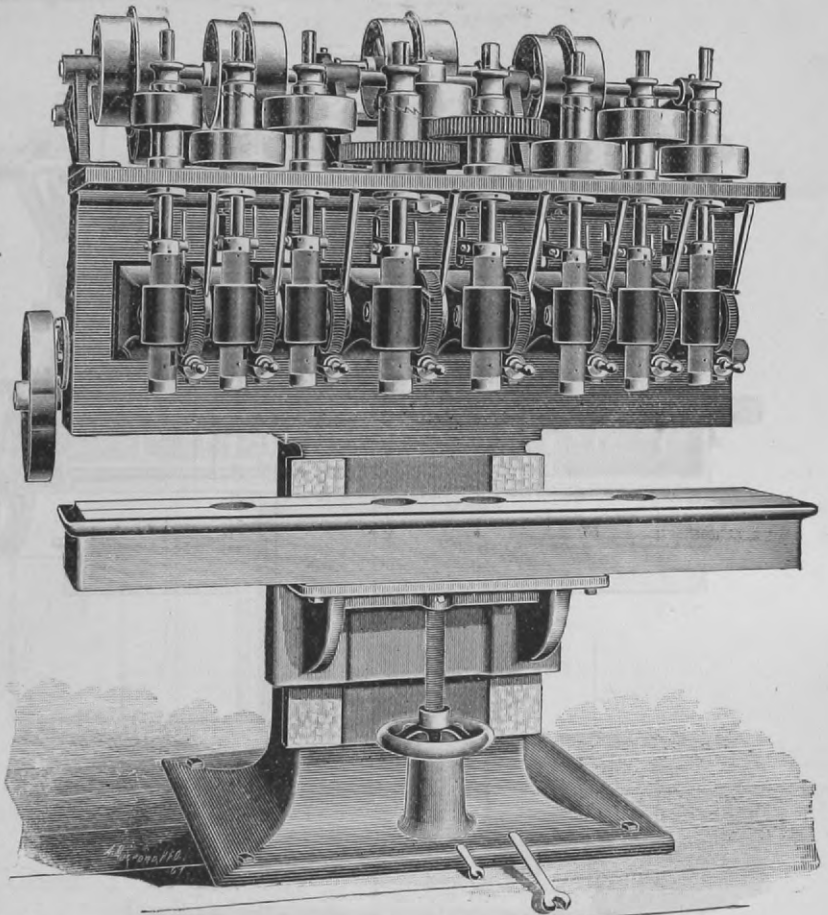
railroad switch and signal apparatus and are so nearly allied as to be capable of being used conjointly as well as separately; that they have been so used by defendants subsequent to the date of the plaintiffs' title to them is the gist of the charge of infringement for which an injunction is asked.

Washington C. Ford, Chief of the Bureau of Statistics, has published in pamphlet form his estimate of the probable or possible revenue under the proposed income tax. He reaches the conclusion that the revenue from private incomes will be small and will hardly cover the cost of collection, and that the revenue from corporations may

the subject of road improvement prominently before the public. It is published by Isaac B. Potter, Potter Building, New York.

#### The Hendey Multiple Spindle Automatic Drill.

The Hendey Machine Company of Torrington, Conn., have designed a multiple spindle drill especially to drill bicycle tube connections and other parts of bicycle work. It is adapted to all classes of drilling where severe and continuous service is required, and has a larger percentage of power and strength than the ordinary drills of the



Front View.

#### THE HENDEY MULTIPLE SPINDLE AUTOMATIC DRILL.

reach as high as \$39,000,000, but is more likely to be nearer \$12,000,000.

"Country Roads" is the subject of the first number (June and July) of "Potter's Good Roads Library," a new bi monthly publication published in the interest of good roads. It is issued in size 6½ x 4½ inches and contains 64 pages of descriptive and illustrated matter pertaining to the construction and maintenance of country highways. Macadam roads, telford roads, asphalt, brick pavements, drainage, highway bridges, road laws, race tracks, village streets and milestones and guide boards will each be taken up in turn and exhaustively treated. The publication of information of this character, at a nominal price, and in a manner so free from technicalities as to make it intelligible to every road and street maker should make it a valuable addition to the good work already accomplished in bringing

automatic class. As shown, it is arranged with eight spindles, to drill various sized holes, having three speeds and two sizes of spindles. The two center spindles are much larger than the other six, and are to drill holes up to and including 1½ inches. The other six spindles (three on either side), drill up to and including ¾ inch. The heads, spindles and details are so arranged that the machine can be built with any number of spindles of either the small or large size, or they can be all alike for drilling to ¾ inch or 1½ inches. Each spindle feed can be thrown in or out independent of the others. Each spindle has a balance weight to lift the spindle from the work as soon as the piece is drilled. Each spindle has automatic trip to throw out the feed when the piece is drilled to the proper depth and each spindle is provided with a stop to adjust it to proper height when leaving the work. By this means the

drill can be stopped very close to the work, so that no time is lost in starting it again. Each spindle is driven by a removable clutch so that any spindle may be stopped and not interfere with the others, as in grinding the drills, changing work, &c. The general dimensions of the machine are as follows: Distance from face of column to center of spindle,  $7\frac{1}{2}$  inches; greatest distance of table from end of spindle, 20 inches; vertical adjustment of table, 12 inches; distance apart of large spindles, 8 inches; distance apart of small spindles, 6 inches; length of spindle feed, 6 inches; diameter of large spindle in the bearing,  $1\frac{1}{8}$  inches; diameter of small spindle in the bearing,  $1\frac{1}{4}$  inches; large spindle is fitted with No. 3 Morse taper;

basic treatment of pig iron in the Bessemer converter in both Europe and America amounted in 1892 to not less than 10,500,000 tons, about one-half of which was made into rails. Now, taking the average price of rails in England at £5 per ton, and in the United States at £6, and adding to this the higher prices obtained for tires, axles, plates, forgings, castings, &c., we may fairly assume that the average selling price of the whole of this steel would be £8 per ton, taking one article with another, hence yielding a net amount of £84,000,000.

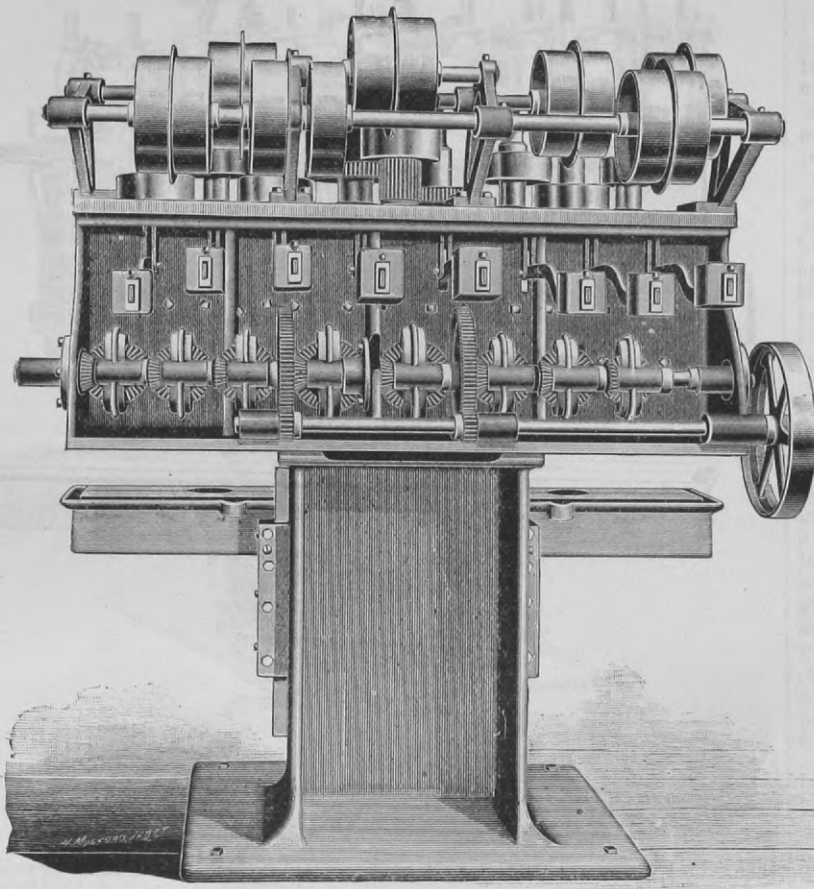
It is a curious fact that high numbers like these do not adequately impress themselves on the minds of many people of undoubted intelligence, and

and 580 yards; indeed there is on an average  $5\frac{1}{2}$  such columns produced on every working day in the year, bringing up each working day's production of steel to 33,546 tons. If, in lieu of this subdivision of the year's products, one would desire to get its ideal dimensions as a whole, we have only to conceive of a plain cylindrical tower of 50 feet in diameter, rising to a height of 26,743 feet, or an altitude of 5 miles and 171 yards.

We might think of many other object lessons that would be likely to convey to the mind's eye a vivid and realistic picture of the enormous bulk of matter represented by 10,500,000 tons of steel. Let us select one other illustration. Let us imagine a straight wall 100 miles in length, 5 feet in thickness and 20 feet in height. Such a wall would stand on  $60\frac{1}{2}$  acres of land. But suppose that this wall, like a gigantic armor plate, was formed into a circle, and used to surround London; the inclosure so made would extend to Watford on the north, to Croydon on the south, to Woolwich on the east, and to Richmond on the west. It would, in point of fact, form a circular inclosure of  $31\frac{1}{2}$  miles in diameter, and would embrace an area of 795 square miles. This great wall of London would just be equal to a single year's production of Bessemer steel.

It may be interesting to put this matter in another form, in order to bring it vividly home to the average imagination. A steel ingot of 1 ton weight is as nearly as possible 5 cubic feet of solid matter. Let us now imagine a solid square ingot of steel, having a base measuring 50 by 50 feet, and standing, say, 400 feet high. This would make a square tower of solid steel much larger than the clock tower of the Houses of Parliament (which is only 40 feet square), and nearly twice as high; in fact, such a tower would only be about 4 feet below the height of the cross of St. Paul's Cathedral. This tower would contain precisely 1,000,000 cubic feet, and would weigh just 200,000 tons. Now, the Thames Embankment from Westminster Bridge to Blackfriars Bridge, measured down the center of the roadway, is  $1\frac{1}{2}$  miles and a few yards. Let us suppose one of these gigantic towers to stand opposite the Clock Tower, and in a line with the roadway over Westminster Bridge, and a similar one erected at the other end of the embankment in a line with the roadway passing over Blackfriars Bridge. Let us now imagine 50 other precisely similar towers placed equidistant between them, thus leaving a space of only 27 yards between each tower. This row of gigantic towers would represent 10,400,000 tons, or just 100,000 tons less than one year's production of Bessemer steel, each of the 52 towers being 1923 tons less than the average weekly production.

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Rear View.

#### THE HENNEY MULTIPLE SPINDLE AUTOMATIC DRILL.

small spindle is fitted with No. 2 Morse taper; small spindle pulleys are 6 inches and 8 inches in diameter by  $2\frac{3}{4}$ -inch face; large spindles are driven by gears which take the power from one pinion which is driven by a pulley 8 inches diameter by 3-inch face; the feed is all driven by one pulley at the end of the machine; weight of the machine is 5000 pounds.

#### The Magnitude of the Bessemer Steel Industry.

The venerable Sir Henry Bessemer has contributed to the *Engineering Review* an article on the Bessemer steel industry, in which he brings forward some illustrations which convey an excellent idea of its magnitude.

We have it on the undoubted authority of Abram S. Hewitt that the annual production of steel by the acid and

it is not until such figures are broken up, as it were, and presented pictorially to the mind's eye, that they are fully understood and appreciated. Thus, if instead of looking at the eight figures which represent the number of tons, we could have that quantity of steel bodily before us, we should form a very different estimate of its importance. Let us use the mind's eye to assist us, and imagine standing erect before us a plain round column or tower of solid steel 20 feet in diameter and 100 feet high; this, no doubt, would impress us as a very large and heavy mass, and but few persons would be prepared at first to accept the simple fact that the production of Bessemer steel in 1892 would make 1671 such columns and leave a remainder of 5535 tons. Yet such is the fact. These tall columns would form a goodly row, and if placed side by side in a straight line, and in contact with each other, would extend to a distance of 6 miles

### Our Imports of Iron and Steel.

Usually the fiscal year is not regarded favorably by statisticians who prefer the calendar year, the government alone clinging to its old practice. Circumstances, however, have made the period which elapsed with June 30 of this year particularly interesting because it was just about 12 months since the panic began to upset business. The fiscal year therefore covers a period of distress, the effect of which should be clearly revealed in the import and export statistics.

The following table shows the imports of iron and steel:

#### Imports of Iron and Steel for the Fiscal Years Ending June 30.

	1894. Gross tons.	1893. Gross tons.
Iron ore .....	218,550	683,056
Pig iron .....	25,763	62,936
Scrap iron and steel, fit only to be remanufactured .....	2,322	18,836
Bar iron, rolled or ham- mered .....	10,162	17,387
Bars, railway, of iron or steel, or in part of steel .....	2,178	932
Hoops or ties for baling purposes, barrel hoops, and hoop or band iron or steel, splayed or punched .....	800	1,671
Hoop, band, or scroll iron or steel .....	993	1,242
Ingots, blooms, slabs, bil- lets, and bars of steel, and steel in forms, n.e.s. ....	12,447	31,889
Sheet, plate, and taggers iron or steel .....	27,019	40,739
Tin plates, terne plates and taggers tin .....	202,750	280,546
Wire rods of iron or steel .....	25,101	43,333
Wire, and wire rope and strand, iron or steel .....	3,888	4,154
Manufacturers of, n.e.s.: ..		
Anvils .....	328	779
Chains .....	72	493

As was to be expected there has been a marked decline in nearly every item of the list. The only one which shows an increase proves to be deceptive on closer investigation. We refer to steel rails. While we imported 2173 tons, we re-exported 1338 tons of these foreign rails and there were in bonded warehouse 3085 tons on June 30, 1894, as compared with 2459 tons on June 30, 1893. The rails in question were probably those purchased for a new road in the Canadian Northwest, a part of which had to be forced on this market.

One point must be considered in connection with these import statistics, and that is that in some lines a very large part of the foreign material is subsequently re-exported in more highly finished form under the drawback arrangements. This was formerly and is to some extent still true of steel billets and of wire rods. We know also that not less than 50,000 tons of foreign tin plate leave this country in the same way. Unfortunately the Bureau of Statistics does not publish the details by which this movement can be gauged. When this is taken into account the whole import business ceases to be very formidable.

The iron ore shows a sharp drop, and the consumption was even smaller, when the fact is revealed that at the close of the year 45,775 tons were in bonded warehouse. We understand that this lies on the docks at Sparrow's Point. This leaves only 172,775 tons as the importations for immediate consumption and that includes manganese and manganese ore imported by Pittsburgh and other districts for the manufacture of spiegeleisen and ferromanganese. The iron trade of the United States certainly need not get frightened over the magnitude of iron ore importations, present or prospective.

Aside from a little special Swedish low phosphorus pig, and some little English iron into the Pacific Coast ports, the pig iron imports practically represent our purchases of foreign

spiegeleisen and ferromanganese. For some time past Pittsburgh has completely captured that trade and we expect to witness further dwindling of imports.

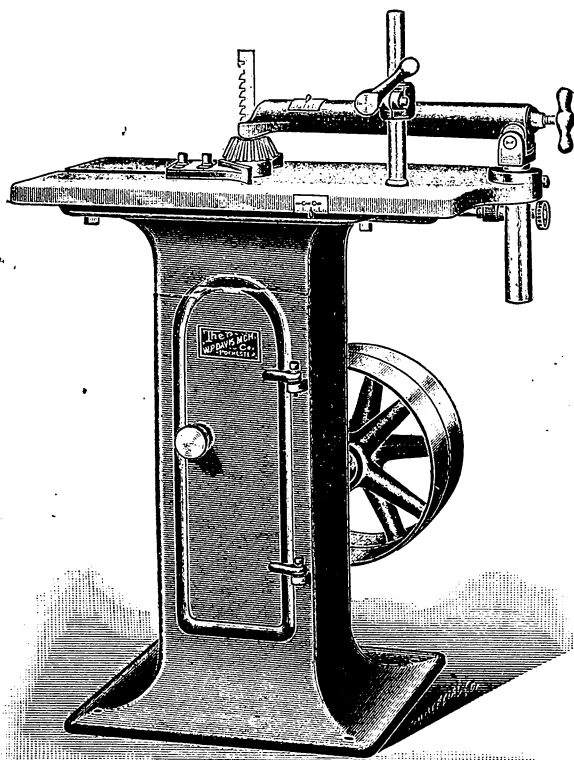
The imports of bars are practically what we require annually of Swedish high grade stock. The greater part of the sheets imported are black plates brought in to be tinned in this country. We know from Ira Ayer's reports that the quantity is declining, the total thus used during the nine months from July 1, 1893, to March 31, 1894, having been 40,290,274 pounds.

The table to which we have just referred deals only with imports of goods for which the quantities are

Hoops and bands, gross tons .....	5	17
Blooms and billets, gross tons .....	1,040	516
Sheet and taggers, gross tons .....	1,969	5,995
Tin plate, gross tons .....	21,861	14,815
Wire rods, gross tons .....	1,490	2,305
Wire and wire rope, gross tons .....	300	121
Anvils, gross tons .....	23	6
Chains, gross tons .....	20	19
Cutlery .....	\$95,956	\$40,202
Files .....	5,600	
Firearms .....	24,266	23,168
Machinery .....	61,238	77,794
All other .....	131,089	176,915

Total values..... \$2,028,402 \$1,731,331

These figures certainly do not warrant the fear that there is going to be any swamping of our markets with



THE PONY KEY SEATING MACHINE.

given. The following are reported by value:

#### Imports of Iron and Steel.

	(Fiscal years— 1894.	1893.
Cutlery .....	\$405,797	\$1,420,516
Files .....	36,800	76,356
Firearms .....	122,708	321,516
Machinery .....	1,419,512	3,369,016
All other manufactures .....	1,494,175	2,947,324

The total valuation of the imports classified under iron and steel fell from \$34,450,734 during the fiscal year 1893 to \$20,594,373 in 1894, this including a decline from \$17,565,640 to \$11,969,518 on tin plate.

The impression has got abroad that there have been heavy accumulations of goods in bonded warehouse in anticipation of tariff changes, and because of unwillingness to withdraw except against actual sale. The returns do not bear this out. The total amount of foreign goods in warehouse increased from \$40,432,807 on June 30, 1893, to \$44,867,287 on June 30, 1894. For iron and steel and its manufactures the figures are as follows:

#### Iron and Steel in Bonded Warehouse.

Articles.	June 30, 1894.	June 30, 1893.
Iron ore, gross tons .....	45,775	791
Pig iron, gross tons .....	3,634	973
Scrap iron, gross tons .....	1,203	1,757
Bar iron, gross tons .....	2,537	2,859
Steel rails, gross tons .....	3,085	

foreign goods should they be rushed out of warehouse as soon as the new tariff bill is passed. It is quite evident that there has been no marked accumulation in anticipation of that event. With an article like tin plates, on which a sharp reduction is contemplated, importers will naturally leave in warehouse every box which is not immediately needed.

#### The Pony Key Seating Machine.

A new key seating machine is made by the W. P. Davis Machine Company of Rochester, N. Y. It will cut the smallest work used in any ordinary shop and is also capable of taking in wheels up to 28 inches in diameter and will cut accurately any size key seats from  $\frac{1}{8}$  inch wide to  $\frac{1}{2}$  inch. There is a scale on the front of the table with an index finger by which the table can be adjusted with the cutter so as to cut any desired taper of key way. The table is moved by a small hand wheel shown on the right of the machine and directly under the table. When the desired taper is secured for the work this does not have to be changed until a different size is required. The cutter is fed in the machine with a patent automatic relief and the depth of the

key seat is shown by the index finger on the scale, as shown in the clamping bar.

The No. 1 machine is also made in the same general manner for larger work, except it has back gear and is much heavier. The table attachments can be placed on any machine of this make that has been built since 1882.

## CORRESPONDENCE.

### Discrimination in the Employment of Labor.

*To the Editor:* Business men in all classes of commercial life, merchants as well as manufacturers, are deploring the condition of trade and hoping for a speedy revival. Winter is coming on and thousands of men who have families are facing the prospect of hearing their children cry for bread and warmth.

The large majority of men who are out of employment are men who have been at work in factories and workshops, the proprietors of which have been compelled to reduce their working force; and it seems to the writer that a great improvement in the situation could be brought about by a little care on the part of the employers when it comes to reducing the force.

In every factory there are men who get into debt to their grocer, their dry goods dealer, their druggist, their landlord and, in fact, to every person who will sell them goods on credit, and such persons are unable to keep out of debt in the most prosperous times. Besides, they never pay until compelled to, and it is generally impossible to compel them to pay. Then there is a class who spend a large part of their wages in saloons.

There is also a third class, which I believe is larger than the other two, who are thrifty, industrious and honorable in their dealings; but many of this class are turned out of employment, while many of the other class are kept in. It is no benefit to a community for men to have employment who refuse to pay their just debts, or who spend a large per cent. of their income in saloons, while honest, sober men are kept in idleness, and it certainly would bring about a great improvement if manufacturers would investigate the character of their employees with the purpose of retaining only those who are valuable to a community.

I have in mind the case of a man who is at work in a shop where it will soon be necessary to reduce the force, who will likely be one of those retained because he is an old employee. This man was sick for several weeks last winter and sent a request for his fellow workmen to make up a purse for him, which he promised to repay as soon as he was able to return to his work. It is now several months since he returned to work and not one cent of the amount made up for him when sick has been repaid, but he has spent several times the amount for whisky and fines.

The writer has had years of experience in connection with manufactories and sincerely believes that much good might be brought about by letting go such persons as do not pay their debts or who patronize saloons. The manufacturing industries depend on the retail merchants throughout the country, who cannot suffer without the manufacturers feeling the distress. J. J.

Colorado has another gold excitement. The new camp is 15 miles east of Mosca.

## THE WEEK.

The developments in regard to the Atchison Railroad, says the *New York Tribune*, will exercise also an important influence on all railway securities. They were of such a character that they cannot stimulate European confidence in American railways, which already had begun to waver. It is doubtful if the directors of the company would not have done better to have dismissed the president rather than to have permitted his resignation. The moral effect abroad which this summary action might have caused would have relieved slightly the disgrace which his conduct has brought upon all American railroads. That he should wholly escape punishment seems to be impossible, but if he should do so the disgrace will even be deeper than it now is. What is peculiarly distressing in the whole affair is the reasonable suspicion which has been aroused that some other railroad companies may have been following the Reinhart method of bookkeeping.

The few railroad earnings thus far reported for August show a considerable decrease, and it is necessary to bear in mind that the earnings in August of last year were \$6,344,000, or 13 per cent. less than in the same month of 1892. The July returns compiled by *The Financial Chronicle* cover 96,757 miles, and show a loss of \$7,988,645, or 20.49 per cent., although in June of last year the decrease on about the same mileage was \$1,765,527, or more than 4 per cent. Some allowance must be made for the fact that business last year was swelled by the World's Fair, but the shrinkage is nevertheless remarkably large.

The long drought in the West has been broken by rains which fell on Saturday last over a large part of Illinois, Iowa and Indiana.

The new Chinese rifle factory just completed at Han Yung has been completely destroyed by fire.

The coal miners at Spring Valley, Ill., have voted not to resume work. The company decline to recognize the union.

The message which was forwarded by relay wheelmen from Washington on August 6 at noon reached Denver, 2037 miles distant, on August 12, at 10.40 p. m.

Verplank Calvin of Albany continues to urge the building of ship canals by the Erie to Oswego, N. Y., maintaining the present barge channel to Buffalo, and also a ship canal on the Champlain-St. Lawrence route.

The last remnant of the Commonwealth army was driven from the State of Virginia by militia last week.

On Saturday, August 11, 29 ocean-going steamers sailed from the port of New York.

Attorney-General Moloney has filed a petition for a bill in equity against the Pullman Palace Car Company, calling upon them to show cause why they should not be prohibited from further doing business under the laws of the State of Illinois.

Capt. W. Schlemick of the oil tank steamer "Standard" has informed the Hydrographic Office that he picked up, July 13, in Colough Bay, County Cork, Ireland, a "bottle paper" which had

been thrown overboard February 11 last in latitude 48° 50', longitude 23° 30'. It was in a bottle sent out by the Hydrographic Office for the purpose of experimenting with ocean currents, and had traveled 660 miles in 152 days.

The Government crop report issued on Friday afternoon gave the condition of corn on August 1 at 69.01, against 95 on July 1 this year, and 87 on August 1 last year. The condition of spring wheat was 68.04, against 67 a year ago.

The condition of cotton on August 1 is given as 91.8, an increase of 2.2 points over the July condition and 3.5 over that of June, the condition of June and July being respectively 88.3 and 89.6. The condition on August 1, 1893, was 80.4, or 11.4 points lower than the condition for the same date this year. The averages by States are: Virginia, 96; North Carolina, 95; South Carolina, 95; Georgia, 85; Florida, 93; Alabama, 94; Mississippi, 97; Louisiana, 96; Texas, 85; Arkansas, 96; Tennessee, 94; Missouri, 96; Oklahoma, 93.

The Central Traffic Association is considering the question of establishing a pool in the westbound lake and rail business.

At Kansas City on August 8 the lower grades of wheat were offered at 30 cents to 35 cents per bushel, at least 20 cents lower than corn. "A bushel of wheat will produce 15 pounds of meat, while a bushel of corn will produce but 10. Hence farmers are feeding wheat to their stock, which sells low, and marketing corn, which brings a high price." It is estimated that wheat thus converted into meat will bring about 60 cents per bushel.

The mileage rate allowed on cars handled on lines other than those of the company to which they belong has heretofore been  $\frac{1}{2}$  cent per mile all over the country. The Western connections of the Eastern trunk lines are in favor of  $\frac{1}{4}$  cent per mile, while the latter stand out for 6 mills per car per mile. Any reduction of the present rate will be hard on the owners of private cars.

A Washington dispatch gives a review of some of the changes in the condition of the Treasury for a year or more which presents some points of interest. It is shown, for example, that while the Treasury cash balance, including the gold reserve, decreased from about \$129,000,000 on January 1, 1893, to about \$90,000,000 on January 1, 1894, it increased to \$119,000,000 on August 1, 1894. The fact that an increase appears on the latter date is, of course, due to the proceeds of the bond issue, which were covered into the Treasury early in the year. The expenditures have exceeded the receipts of the Government in every month since the beginning of 1893, with the exception of March, May and June, 1893, and June, 1894; and while the excess of receipts over expenditures have been small, the excesses of expenditures over receipts have, on the other hand, been large.

Eastern pig iron tariff No. 7 of the Queen & Crescent route, effective August 16, fixes the rate to Allentown, Pa., as follows: From Dayton and Rockwood, Tenn., \$4; from Chattanooga, \$4.25; from the Birmingham district, \$4.50. To New York the rates are \$4.60, \$4.85 and \$5.10, respectively, and to Trenton, N. J., \$4.62, \$4.62 and \$4.87, respectively.

# The Iron Age

New York, Thursday, August 16, 1894.

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## The New Tariff in the Iron and Metal Trades.

Judging from expressions general among business men, the first sensation following the announcement that the new tariff bill has been passed has been one of relief. The delay and uncertainty were interfering so seriously with commerce and industry that a settlement was impatiently looked forward to. Unsatisfactory as the bill is in many respects, it is regarded as a matter for congratulation that the conservative element in the Senate defeated the Wilson bill with its dangerous principle of ad valorem rates. We print elsewhere the text of the bill and present in tabular form a comparison of the old and the new rates. It will be observed that there has been a reduction all along the line, which, however, at the present range of values in this country and abroad, will not admit of heavy importations except in some articles singled out for attack. To these we shall refer presently. The danger of the new tariff lies in this, that it will allow of a surrender of a part of our markets in those times when we lead an advance in prices. Past industrial history has taught us that that is usually the case.

So far as the heavy iron and steel products are concerned the new rates of duties will not affect our present markets. Pig iron at \$4 per ton, scrap at \$4 per ton, manganiferous pig at the same rate, billets at \$6.72, wire rods at \$8.96, or rails at \$7.84 cannot be placed in our markets in competition with domestic products, except possibly at some points on the Pacific Coast.

In finished iron and steel, bars, structural shapes and plates our prices are so close to those prevailing in Europe that a liberal margin for an advance exists. The same is true of the crude forms of wire, and of nails and of hoops. In skelp and ordinary welded tubes our markets are our own for the present. This holds good also for track material, and for iron and steel for railroad rolling stock. The cast iron pipe trade has nothing to fear in the near future.

The reduction in the duty on iron ore from 75 cents to 40 cents per ton will not materially improve the ability of the large Eastern steel works to compete with the inland mills using cheap and rich Lake Superior ores. Even if the special bill on iron ore passed by the House could be pushed through the Senate—what no one seriously expects—even then the furnaces of Eastern Pennsylvania, running on foundry iron, could not get sufficiently cheap

foreign ore to crowd back the Southern producers.

In our judgment the iron trade at large will not suffer from the passage of the Senate bill, so far as the near future is concerned. On the contrary a temporary advantage may be secured through the resumption of business kept in abeyance through the long delay and suspense in Congress.

Two important industries are, however, struck a heavy blow—the manufacture of cotton ties and the manufacture of tin plate. The outrage of singling out cotton ties and placing them on the free list in order to please sectional interest cannot be too severely condemned. It happens that the greater part of the requirements for this season have been placed, but in the future the bulk of the trade must be surrendered to the foreign mills.

The cutting down of the duty on tin plate from 2.2 cents per pound to 1.2 cents per pound will be a powerful help to the Welsh works in their losing fight with American producers. There is some satisfaction in knowing that the American tin plate industry is now so firmly established that it will be able to hold its own. The men, however, must share with the manufacturers in the hardships which the reduction must bring with it. There is an understanding that there will be a reduction in wages as the result of the new tariff. The placing of tin on the free list compensates the manufacturers to only an insignificant extent for the drop of \$1 per box, since it will not amount to more than 20 cents at the very best. Even with an adequate reduction in wages the expansion of the tin plate industry will be very slow as compared with the rate which it was showing, and would have shown, had the duty remained as it was for some time longer.

As the schedule now stands, the work of those tin plate mills which have depended upon foreign black plates will be seriously embarrassed. As we understand it, the duty on black plates is so high that those who have been dipping foreign black plates will have to turn to American stock, either drawing it from the open market or putting in their own rolling mills. The extent of this industry may be appreciated from the fact that out of 38,260,411 pounds of tin plate made during the first quarter of this year 10,495,249 pounds were made from foreign black plates.

In the metal trade the return of tin to the free list will be received with general satisfaction, since the promises held out by the Black Hills prospectors have not been kept. Copper has outlived the necessity for protection and its appearance on the free list will not trouble anybody. To the copper smelters on the Atlantic coast the placing of ore on the free list will be of direct advantage, because it relieves them of all the annoyances which accompanied smelting of foreign ore and re-exporting the metal contents thereof.

The lowering of the duty on pig lead and on the lead in ores will have an important influence on that industry. The price in Europe is equal to about 2 cents per pound, so that the metal could be laid down for a little over 3 cents per pound, against recent quotations here at 3.5 cents per pound. As a matter of fact between 4000 and 5000 tons in the aggregate of foreign lead are either on the way to this country or have already arrived. This may seem strange in view of the fact that a very large quantity of Mexican base bullion is refined in bond in this country and is exported subsequently to Europe. In 1893 the quantity refined in bond was 12,874 tons. We are informed that it is a matter of freights, and that the Mexican lead will continue to go out largely on account of the peculiar conditions under which refining in bond is carried on. Under Treasury rulings the duty paid on 100 tons of base bullion is refunded when 90 tons are exported, but in reality the yield is larger, so that a refiner gets in a certain quantity of lead free. The Treasury has ruled further that when the lead refined in bond is kept in this country, the duty on the whole weight of bullion must be paid. This will explain what may appear a peculiar phenomenon—that European lead is imported, and yet Mexican lead, refined in the United States, in bond, goes to Europe. Aside from this complication it is quite evident that the American market must adjust itself to the changed conditions and that values must recede to a parity with foreign markets, plus the new rate. This means an ultimate decline of, say, ½ cent per pound, unless European prices advance or American production is curtailed by the decline in price. It is not believed that the imports of Mexican ores will be much stimulated, but it is quite clear that the Rocky Mountain mining industry will sustain a heavy blow, staggering, as it is, under the adverse effect of low prices for silver.

The reduction in the duty on Spelter from 1¾ cents to 1 cent per pound will not, at the present relative prices of the metal in Europe and in this country, allow of importations. In fact we are close to the exporting point now.

On the whole, therefore, the new bill affects most keenly the metal trade proper, forcing an adjustment of values which cannot help being of far-reaching consequences. Time only can tell how the injured industries will emerge from the ordeal.

## Our Exports of Metals, Machinery and Hardware.

Many American manufacturers have been strengthened during the last year of depression in the belief that an export trade will afford them some relief, and that they must look to foreign markets for profitable expansion. Vigorous efforts are being made in that direction by those who have had con-

nections for some years past, and a good deal of tentative work has been done by many to whom the field is new. We have little patience with those who decry the importance of foreign markets merely because they may be relatively small. No better illustration of what an outlet may mean is furnished than that afforded by the experience of the American copper trade during the past year. When the panic struck us last summer the American copper producers had just declined to renew the international arrangement under which they had been limited to an annual export of 40,000 tons of copper. That quantity was supposed to represent pretty closely the surplus of our production available over our normal consumption. Then came the terrific drop in our home requirements. Had not there been a foreign outlet for that unexpected addition to our surplus it would have become necessary to close down our mines right and left. As it was, there were very moderate reductions in wages in a few districts, while in others they remained stationary. While thousands of men were driven into idleness in every mining and manufacturing branch, and those who were at work had to submit to short hours and heavily reduced pay, the copper miners throughout the country were putting in full time, and the mine owners themselves were making at least moderate profits. This was only possible because a foreign outlet existed, so that we could market in the year from July 1, 1893, to July 1, 1894, not less than 99,800 gross tons of copper against 37,341 gross tons from July 1, 1892, to July 1, 1893. It enabled us not alone to overcome a decline of about 40,000 tons in the home consumption, but also to actually increase the production by at least 20,000 tons.

While no one will pretend that results so startling in their character are attainable in other industries, the general proposition is true that business is not equally bad in all parts of the world at the same time. Therefore business may be captured at a price, often directly remunerative, and still more frequently indirectly advantageous.

It will probably be regarded by many as a pretty poor consolation that on the whole we have been gaining in the export trade. Yet there is some satisfaction in it in spite of the fact that it is far from compensating us for our losses in business at home. We feel sure that we can hold our home trade when the time when it rapidly returns to its normal condition does come. In the mean time we have been reconnoitering in new territory and have been taking the first steps toward accomplishing our manifest destiny, the control of the world's markets by American manufacturers.

The Bureau of Statistics reports as follows the exports of articles classified as iron and steel and its manufactures for the fiscal years ending June 30:

### Exports of Domestic Iron and Steel.

Twelve months ending June 30.

Articles.	1894.	1893.
Pig iron.....	\$370,171	\$335,339
Band, hoop and scroll iron.....	7,302	7,867
Bar iron.....	133,744	68,656
Car wheels.....	94,954	106,403
Castings, n.e.s.....	491,926	570,841
Cutlery.....	167,732	148,550
Firearms.....	623,552	721,271
Ingots, bars and rods of steel.....	29,284	22,201
Locks, hinges and other builders' hardware.....	2,503,974	2,648,919
Machinery, n.e.s.....	10,436,572	10,467,091
Nails and spikes:		
Cut.....	330,202	330,554
Wire, wrought, horse-shoe and all other, including tacks.....	180,291	158,093
Plates and sheets:		
Iron.....	112,115	65,768
Steel.....	36,597	20,439
Printing presses and parts of.....	272,088	205,805
Railroad bars or rails:		
Iron.....	26,987	11,113
Steel.....	471,230	471,230
Saws and tools.....	1,917,831	1,902,423
Scales and balances.....	315,200	406,430
Sewing machines and parts of.....	2,347,199	2,476,444
Steam engines and parts of:		
Fire engines.....	14,828	75
Locomotive engines.....	1,028,336	1,794,709
Stationary engines.....	313,346	254,398
Boilers and parts of engines.....	710,057	607,758
Stoves and ranges and parts of.....	236,284	216,463
Wire.....	1,074,915	1,189,219
All other manufactures of iron and steel.....	4,987,841	4,896,401
Totals.....	\$29,214,393	\$30,106,482

Considering the decline in values it is quite an achievement that the totals for the last year compare so favorably with the sales of the previous fiscal year. In some of the articles where quantities are given the growing volume of business is exhibited. The exports of pig iron rose from 24,881 tons to 26,520 tons, those of bar iron from 1236 to 2983 tons, of cut nails from 6966 tons to 7378 tons, of wire and other nails from 1027 to 1439 tons, of iron plates from 1267 tons to 2260 tons, of steel plates from 292 tons to 583 tons, of steel rails from 15,289 tons to 15,561 tons and of wire from 19,071 gross tons to 19,990 tons. Of course these figures are small, except so far as the last item is concerned, but the totals for builders' hardware, machinery, saws and tools, locomotives and sewing machines are very respectable. Concerning some of the larger totals the Bureau of Statistics furnishes data showing the country to which the merchandise was exported. Thus on builders' hardware and saws and tools the following is presented:

### Exports of Builders' Hardware and Saws and Tools.

Fiscal Years Ending June 30.

Country.	1894.	1893.
United Kingdom.....	\$714,154	\$404,974
Germany.....	293,032	236,561
France.....	75,821	64,540
Other countries in Europe.....	167,290	114,483
British North American possessions.....	640,272	571,017
Mexico.....	300,362	392,559
Central American States and British Honduras.....	79,515	115,981
Cuba.....	433,720	639,508
Puerto Rico.....	30,093	22,254
Santo Domingo.....	27,909	17,524
Other West Indies and Bermuda.....	83,741	84,462
Argentine Republic.....	127,220	215,481
Brazil.....	270,714	280,278
Colombia.....	78,167	121,648
Other countries in South America.....	256,960	339,814
British possessions in Australasia.....	617,743	541,233
Other countries in Asia and Oceania.....	72,168	52,434
Africa.....	145,259	134,619
Other countries.....	3,015	2,932
Totals.....	\$4,421,855	\$4,551,342

It will be noted that the principal gains have been in British countries, while Cuba shows a heavy falling off.

For machinery we have the following data:

### Exports of Steam Engines, Locomotives and Machinery.

Fiscal Years ending June 30.

Country.	1894.	1893.
United Kingdom.....	\$2,004,128	\$2,007,626
Germany.....	584,545	457,013
France.....	335,188	249,799
Other countries in Europe.....	701,715	450,862
British North American possessions.....	1,483,804	1,021,942
Mexico.....	1,596,559	1,753,212
Central American States and British Honduras.....	234,939	336,254
Cuba.....	2,094,508	2,663,762
Puerto Rico.....	4,924	70,858
Santo Domingo.....	291,182	166,241
Other West Indies and Bermuda.....	228,666	212,959
Argentine Republic.....	229,771	124,529
Brazil.....	630,849	1,114,863
Colombia.....	130,235	137,789
Other countries in South America.....	773,832	498,628
China.....	26,352	12,270
British possessions in Australasia.....	265,322	285,419
British India and East Indies.....	27,574	16,893
Other countries in Asia and Oceania.....	403,093	198,059
Africa.....	316,934	345,470
Other countries.....	1,961	585
Totals.....	\$13,502,139	\$13,124,031

Here again Cuba shows a marked decline, while the heaviest gain is in Canada.

In other lines allied with the trades referred to there has been quite an improvement. Our exports of agricultural implements rose from \$4,657,333 to \$5,027,928. The value of brass and its manufactures exported increased: from \$519,435 to \$808,350. The shipments of copper matte and ingots jumped from \$9,116,911 to \$22,132,856. In gunpowder and explosives a gain from \$861,513 to \$1,002,105 is recorded. The value of manufactures of lead doubled, from \$316,943 to \$638,297. In plated ware there was a falling off from \$322,016 to \$281,484. Our quicksilver exports too ebbed from \$204,908 to \$618,297. Manufactures of tin increased from \$223,441 to \$290,492, while in zinc and its manufactures there was a decline from \$610,709 to \$456,842.

All these figures are quite encouraging. They show a modest growth and prove that work is being done in the right direction. There is nothing to brag about in the results, but with increasing familiarity with foreign markets and better facilities for doing the business there should be a healthy expansion. The time of course will come, and it may be nearer than many expect, when heavy home requirements may tempt many to neglect the foreign field. It is to be hoped that this may not occur. We have learned to reduce costs permanently in many branches and where we have not yet reached the exporting point we are constantly drawing nearer to it. Naturally, a general movement of this character progresses in pulsations. It is the duty of American manufacturers to keep the fluctuations within bounds and aim at a steady growth.

### Salesman vs. Engineer.

Naturally the accomplished salesman and the successful engineer differ greatly in general character and in those peculiar faculties that go to make of each the successful man that he is in his chosen vocation. Their characteristics are in fact almost antagonistic. The absolute candor and conciseness of the engineer would become but a snare and a pitfall to the salesman, while in turn the superficial knowledge of some salesmen and their lack of intimate acquaintance with principles, details, &c., would threaten the downfall of an engineer.

And yet with all this diversity necessity is gradually drawing together these extremes and evolving the salesman-engineer, a man who does not seek orders for standard goods at so much per dozen or per pound, but one who requires a clear and detailed knowledge of the machine he sells or the system he seeks to introduce.

A steam engine salesman who has no ability in matters of steam engineering cannot in these days stand out against the man who from foreknowledge can adapt his engine to given conditions with definite guarantee, if need be, and then fulfill that guarantee. It is one thing to merely sell an article, but something very different to make a successful sale in the broadest sense. We mean a sale that will not entail a bill of expense for changes because of inadequacy or necessitate the substitution of a larger machine to fill the original order because of the salesman's lack of comprehension of the requirements. We mean a sale which will rather prove a perfect success, will produce a sense of satisfaction in the owner and serve as a lasting and valuable advertisement.

When the selling and engineering departments can so combine that the salesman makes no contract until it has been approved by the engineering department such trouble may be avoided. But in certain lines of business this is practically impossible, and the salesman must do his own engineering or the favorable opportunity that has presented itself for making a sale may be lost forever if he awaits approval of his action and recommendations from a distant engineering headquarters.

The salesman with strong engineering proclivities finds himself out of place, however, when he attempts to deal with a committee or commission to whom reason does not appeal and who can only be influenced by the almighty dollar. Then it is that his usual convincing arguments fail, and he is completely hoodwinked by the representative of a rival house who understands this particular kind of business and handles it with the skill of an artist, albeit in something approaching crime. The engineer, because he has succeeded along the same lines when dealing with individual purchasers, does not awake to the change in the conditions until at the opening of the bids it dawns upon him that his honest methods have accomplished nothing save with those of the board who would not be bought, and, as is usually the case, these were in the minority.

This certainly is no argument in favor of the conception of the engineer, but it is an evident cause of his failure under such conditions. Nevertheless the coming man in certain lines of engineering business will of necessity be capable not only of winning his prospective custom by affable manners and persuasive promises, but will possess the faculty of securing his confidence and logically convincing him by a thorough knowledge of his machine or system and an acquaintance with its details and the principles that govern in its action, and withal by showing that he is master of his subject.

### The New Tariff Bill.

We present below in full the metal schedule as it stands in the Senate bill, accepted by the House:

109½. Iron ore, including manganiferous iron ore, also the dross or residuum from burnt pyrites, 40 cents per ton.

110. Iron in pigs, iron kentledge, spiegel-eisen, ferro-manganese, ferro-silicon, wrought and cast scrap iron, and scrap steel, \$4 per ton, but nothing shall be deemed scrap iron or scrap steel except waste or refuse iron or steel fit only to be remanufactured.

#### Bars.

112. Bar iron, rolled or hammered, comprising flats not less than 1 inch wide nor less than ⅝ inch thick, 6-10 cent per pound; round iron not less than ⅝ inch in diameter, and square iron not less than ⅝ inch square, 6-10 cent per pound; flats less than 1 inch wide or less than 3-8 inch thick; round iron less than ⅝ inch and not less than 7-16 inch in diameter, and square iron less than ⅝ inch square, 6-10 cent per pound.

111. Round iron in coils or rods, less than 7-16 inch in diameter, and bars or shapes of rolled iron, not specially provided for in this Act, 8-10 cent per pound: Provided, That all iron in slabs, blooms, loops, or other forms less finished than iron in bars and more advanced than pig iron, except castings, shall be subject to a duty of 5-10 cent per pound: Provided further, That all iron bars, blooms, billets or sizes or shapes of any kind, in the manufacture of which charcoal is used as fuel, shall be subject to a duty of \$12 per ton.

#### Structural Iron.

113. Beams, girders, joists angles, channels, car truck channels, T, columns and posts or parts or sections of columns and posts, deck and bulb beams, and building forms, together with all other structural shapes of iron or steel, whether plain or punched, or fitted for use, 6-10 cent per pound.

114. Boiler or other plate iron or steel, except saw plates hereinafter provided for, not thinner than No. 10 wire gauge, sheared or unsheared, and skelp iron or steel sheared or rolled in grooves, valued at 1 cent per pound or less, 5-10 cent per pound; valued above 1 cent and not above 1½ cents, 6-10 cent per pound; valued above 1½ cents and not above 4 cents per pound, 30 per centum ad valorem; valued at over 4 cents per pound, 25 per centum ad valorem; Provided, That all plate iron or steel thinner than No. 10 wire gauge shall pay duty as iron or steel sheets.

115. Forgings of iron or steel, or forged iron or steel combined, of whatever shape, or in whatever stage of manufacture, not specially provided for in this act, 1½ cents per pound: Provided, That no forgings, of iron or steel, or forgings of iron and steel combined, by whatever process made, shall pay a less rate of duty than 35 per centum ad valorem.

116. Hoop, band, or scroll iron or steel, except as otherwise provided for in this act, 30 per centum ad valorem.

117. Railway bars, made of iron or steel, and railway bars made in part of steel, T rails, and punched iron or steel flat rails, 7-20 cent per pound.

#### Sheets.

118. Sheets of iron or steel, common or black, including all iron or steel commercially known as common or black taggers iron or steel, and skelp iron or steel, valued at 3 cents per pound or less, thinner than No. 10 and not thinner than No. 20 wire

gauge, 7-10 cent per pound; thinner than No. 20 wire gauge and not thinner than No. 25 wire gauge, 8-10 cent per pound; thinner than No. 25 wire gauge, 1 1-10 cents per pound; corrugated or crimped, 1 1-10 cents per pound: Provided, That all common or black sheet iron or sheet steel not thinner than No. 10 wire gauge shall pay duty as plate iron or plate steel.

119. All iron or steel sheets or plates, and all hoop, band or scroll iron or steel, excepting what are known commercially as tin plates,terne plates, and taggers tin, and hereinafter provided for, when galvanized or coated with zinc or spelter, or other metals, or any alloy of those metals, shall pay ¼ cent per pound more duty than the rates imposed by the preceding paragraph upon the corresponding gauges or forms of common or black sheet or taggers iron or steel.

120. Sheet iron or sheet steel, polished, planished, or glanced, by whatever name designated, 1¼ cents per pound: Provided, That plate or sheet or taggers iron or steel, by whatever name designated, other than the polished, planished, or glanced herein provided for, which has been pickled or cleaned by acid, or by any other material or process, or which is cold-rolled, smoothed only, not polished, shall pay ½ cent per pound more duty than the corresponding gauges of common or black sheet or taggers iron or steel.

#### Tin Plate.

121. Sheets or plates of iron or steel, or taggers iron or steel, coated with tin or lead, or with a mixture of which these metals, or either of them, is a component part, by the dipping or any other process, and commercially known as tin plates,terne plates and taggers tin, 1 1-5 cents per pound: Provided, That the reduction of duty herein provided for shall take effect on and after October 1, 1894. No article not specially provided for in this act, wholly or partly manufactured from tin plate,terne plate, or the sheet, or plate iron or steel herein provided for, or of which such tin plate,terne plate, sheet, or plate iron or steel shall be the material of chief value, shall pay a lower rate of duty than that imposed on the tin plate,terne plate, or sheet, or plate iron or steel from which it is made, or of which it shall be the component thereof of chief value.

#### Steel.

122. Steel ingots, cogged ingots, blooms and slabs, by whatever process made; die blocks or blanks; billets and bars and tapered or beveled bars; steamer, crank, and other shafts; shafting; wrist or crank pins; connecting rods and piston rods; pressed, sheared, or stamped shapes; saw plates, wholly or partially manufactured; hammer molds or swaged steel; gun-barrel molds not in bars; alloys used as substitutes for steel in the manufacture of tools; all descriptions and shapes of dry sand, loam, or iron molded steel castings; sheets and plates not specially provided for in this act; and steel in all forms and shapes not specially provided for in this act, all of the above valued at 1 cent per pound or less, 3-10 cent per pound; valued above 1 cent and not above 1 4-10 cents per pound, 4-10 cent per pound; valued above 1 4-10 cents and not above 1 8-10 cents per pound, 6-10 cent per pound; valued above 1 8-10 cents and not above 2 2-10 cents per pound, 7-10 cent per pound; valued above 2 2-10 cents and not above 3 cents per pound, 9-10 cent per pound; valued above 3 cents per pound and not above 4 cents per pound, 1 2-10 cents per pound; valued above 4 cents and not above 7 cents per pound, 1 3-10 cents per pound; valued above 7 cents and not above 10 cents per pound, 1 9-10 cents per pound; valued above 10 cents and not above 13 cents per pound, 2 4-10 cents per pound; valued above 13 cents and not above 16 cents per pound, 2 8-10 cents per pound; valued above 16 cents per pound, 4 7-10 cents per pound.

123. Wire rods: Rivet, screw, fence, and other iron or steel wire rods, whether round, oval, flat, or square, or in any other shape, and nail rods, in coils or otherwise, valued at 4 cents or less per pound, 4-10 cent per pound; valued over 4 cents per pound, ¼ cent per pound: Provided, That all round iron or steel rods smaller than No. 6 wire gauge shall be classed and dutiable as wire.

#### Wire.

124. Wire: Round iron or steel wire, all sizes not smaller than 13 wire gauge, 1¼ cents per pound; smaller than 13 wire gauge, and not smaller than 16 wire gauge,

1½ cents per pound; smaller than 16 wire gauge, 2 cents per pound; all other iron or steel wire and wire or strip steel, commonly known as crinoline wire, corset wire, drill rods, needle wire, piano wire, clock and watch wires, and all steel wires, whether polished or unpolished, in coils or straightened, and cut to lengths, drawn cold through dies, and hat wire, flat steel wire, or sheet steel in strips, uncovered or covered with cotton, silk or other material or metal, and all the foregoing manufactures of iron or steel, of whatever shape or form, valued above 4 cents per pound, shall pay a duty of 40 per centum ad valorem: Provided, That articles manufactured from iron or steel wire shall pay the maximum rate of duty which would be imposed upon any wire used in the manufacture of such articles and in addition thereto 1 cent. per pound.

#### General Provisions.

125. No allowance or reduction of duties for partial loss or damage in consequence of rust or of discoloration shall be made upon any description of iron or steel, or upon any article wholly or partly manufactured of iron or steel.

#### Manufactures of Iron and Steel.

126. Anchors, or parts thereof, of iron or steel, mill irons and mill cranks of wrought iron, and wrought iron for ships, and forgings of iron or steel, or of combined iron and steel, for vessels, steam engines and locomotives, or parts thereof, 1 2-10 cents per pound.

127. Axles, or parts thereof, axle bars, axle blanks, or forgings for axles, whether of iron or steel, without reference to the stage or state of manufacture, 1½ cents per pound: Provided, That when iron or steel axles are imported fitted in wheels, or parts of wheels, of iron or steel, they shall be dutiable at the same rate as the wheels in which they are fitted.

128. Anvils of iron or steel, or of iron and steel combined, by whatever process made, or in whatever stage of manufacture, 1¼ cents per pound.

129. Blacksmiths' hammers and sledges, track tools, wedges and crowbars, whether of iron or steel, 1½ cents per pound.

130. Boiler or other tubes, pipes, flues or stays of wrought iron or steel, 25 per centum ad valorem.

131. Bolts, with or without threads or nuts, or bolt blanks, and finished hinges or hinge blanks, whether of iron or steel, 1½ cents per pound.

132. Card clothing manufactured from tempered steel wire, 40 cents per square foot; all other 20 cents per square foot.

133. Cast iron pipe of every description, 6-10 cent per pound.

134. Cast iron vessels, plates, stove plates, andirons, sadirons, tailors' irons, hatters' irons, and castings of iron, not specially provided for in this act, 8-10 cent per pound.

135. Castings of malleable iron not specially provided for in this act, 9-10 cent per pound.

136. Cast hollow ware, coated, glazed or tinned, 2 cents per pound.

137. Chains of all kinds, made of iron or steel, 30 per centum ad valorem.

#### Cutlery.

138. Penknives, pocket knives or erasers, of all kinds, valued at not more than 30 cents per dozen, 25 per centum ad valorem; valued at more than 30 cents per dozen and not exceeding 50 cents per dozen, 14 cents per dozen; valued at more than 50 cents per dozen and not exceeding \$1 per dozen, 25 cents per dozen; valued at more than \$1 per dozen and not exceeding \$1.50 per dozen, 40 cents per dozen; valued at more than \$1.50 per dozen and not exceeding \$3 per dozen, 75 cents per dozen; valued at more than \$3 per dozen, 50 per centum ad valorem; and in addition thereto, on all the foregoing valued at more than 30 cents per dozen and not more than \$3 per dozen, 25 per centum ad valorem: Provided, That blades, handles, or any other parts of any or either of the articles named in this paragraph, imported in any other manner than assembled in penknives, pocket knives, or erasers, shall be subject to no less rate of duty than herein provided for pen knives, pocket knives, or erasers valued at more than 30 cents per dozen.

139. Swords, sword blades and side arms, 35 per centum ad valorem.

140. Table and carving knives, and forks, valued at more than \$4 per dozen pieces, razors and razor blades, wholly or partly finished, scissors and shears, 45 per centum ad valorem; all other table knives, forks,

steels, and all hunting, kitchen, bread, butter, vegetable, fruit, cheese, plumbers', painters', palette and artists' knives; also all cooks' and butchers' knives, forks and steels, 35 per centum ad valorem.

141. Files, file blanks, rasps and floats, of all cuts and kinds, 4 inches in length and under, 35 cents per dozen; over 4 inches in length and under 9 inches, 60 cents per dozen; 9 inches in length or over, \$1 per dozen.

#### Firearms.

142. Muskets, muzzle loading shot guns and sporting rifles, and parts thereof, 25 per centum ad valorem.

143. Sporting, breech loading shot guns, combination shot guns and rifles and pistols, and parts of all of the foregoing, 30 per centum ad valorem.

144. Sheets, plates, wares, or articles of iron, steel, or other metal, enameled or glazed with vitreous glasses, 35 per centum ad valorem.

#### Nails, Spikes, Tacks and Needles.

145. Cut nails and cut spikes of iron or steel, 22½ per centum ad valorem.

146. Horseshoe nails, hobnails, and all other wrought iron or steel nails not specially provided for in this act, 30 per centum ad valorem.

147. Wire nails made of wrought iron or steel, 25 per centum ad valorem.

148. Spikes, nuts and washers, and horse, mule or ox shoes, of wrought iron or steel, 25 per centum ad valorem.

149. Cut tacks, brads or sprigs of all kinds, 25 per centum ad valorem.

150. Needles for knitting or sewing machines, crochet needles and tape needles, knitting and all other needles, not specially provided for in this act, and bodkins of metal, 25 per centum ad valorem.

#### Plates.

151. Steel plates engraved, stereotype plates, electrotype plates and plates of other materials, engraved or lithographed, for printing, 25 per centum ad valorem.

152. Railway fish plates or splice bars, made of iron or steel, 25 per centum ad valorem.

153. Rivets of iron or steel, 25 per centum ad valorem.

#### Saws.

154. Crosscut saws, 6 cents per linear foot; mill saws, 10 cents per linear foot; pit and drag saws, 8 cents per linear foot; circular saws, 25 per centum ad valorem; hand, back and all other saws, not specially provided for in this act, 25 per centum ad valorem.

155. Screws, commonly called wood-screws, more than 2 inches in length, 3 cents per pound; over 1 inch and not more than 2 inches in length, 5 cents per pound; over ½ inch and not more than 1 inch in length, 7 cents per pound; ½ inch and less in length, 10 cents per pound.

156. Wheels for railway purposes, or parts thereof, made of iron or steel, and steel tired wheels for railway purposes, whether wholly or partly finished, and iron or steel locomotive, car, or other railway tires or parts thereof, wholly or partly manufactured, and ingots, cogged ingots, blooms or blanks for the same, without regard to the degree of manufacture, 1¼ cents per pound: Provided, That when wheels or parts thereof, of iron or steel, are imported with iron or steel axles fitted in them, the wheels and axles together shall be dutiable at the same rate as is provided for the wheels when imported separately.

#### Miscellaneous Metals and Manufactures of.

157. Aluminum, in crude form, alloys of any kind in which aluminum is the component material of chief value, 10 cents per pound.

158. Argentine, albata or German silver, unmanufactured, 15 per centum ad valorem.

159. Brass, in bars or pigs, old brass, clippings from brass or Dutch metal, and old sheathing, or yellow metal, fit only for remanufacture, 10 per centum ad valorem.

160. Bronze powder, metallics or flitters, bronze or Dutch metal, or aluminum, in leaf, 40 per centum ad valorem.

#### Copper Goods.

161. Copper in rolled plates, called braziers' copper, sheets, rods, pipes and copper bottoms, also sheathing or yellow metal of which copper is the component material of chief value, and not composed wholly or in part of iron ungalvanized, 20 per centum ad valorem.

#### Lead.

165. Lead ore and lead dross, ¾ cent per pound: Provided, That silver ore and all other ores containing lead shall pay a duty of ¼ cent per pound on the lead contained therein, according to sample and assay at the port of entry. The method of sampling and assaying to be that usually adopted for commercial purposes by public stamping works in the United States.

166. Lead in pigs and bars, molten and old refuse lead run into blocks and bars, and old scrap lead fit only to be remanufactured, 1 cent per pound: Provided, That in case any foreign country shall impose an export duty upon lead ore or lead dross or silver ores containing lead, exported to the United States from such country, then the duty upon such ores and lead in pigs and bars, molten and old refuse lead run into blocks and bars, and old scrap lead fit only to be remanufactured, herein provided for, when imported from such country, shall remain the same as fixed by the law in force prior to the passage of this act.

167. Lead in sheets, pipes, shot, glaziers' lead, and lead wire, 1¼ cents per pound.

167½. Mica, 20 per centum ad valorem.

#### Nickel.

167½. Nickel, nickel oxide, alloy of any kind in which nickel is the component material of chief value, 6 cents per pound.

170½. Quicksilver, 7 cents per pound.

171. Type metal, ¾ cents per pound for the lead contained therein; and new types, 15 per centum ad valorem.

#### Zinc or Spelter.

174. Zinc in blocks or pigs, 1 cent per pound.

175. Zinc in sheets, not polished nor further advanced than rolled, 1¼ cents per pound.

176. Zinc, old and worn out, fit only to be remanufactured, ¾ cents per pound.

177. Manufactured articles or wares, not specially provided for in this act, composed wholly or in part of any metal, and whether partly or wholly manufactured, 35 per centum ad valorem.

#### Free List.

376. Antimony ore, crude sulphite of (1), and antimony, as regulus or metal (2).

451. Copper imported in the form of ores.

452. Old copper, fit only for manufacture (1), clipping from new copper (2), and all composition metal of which copper is a component material of chief value (3) not specially provided for in this act.

453. Copper, regulus of, and black or coarse copper, and copper cement.

454. Copper in plates, bars, ingots, or pigs, and other forms, not manufactured, not specially provided for in this act.

459. Cotton ties of iron or steel cut to lengths, punched or not punched, with or without buckles, for baling cotton.

653. Tin ore, cassiterite or black oxide of tin, and tin in bars, blocks, pigs, or grain or granulated.

614. Shotgun barrels, forged, rough bored.

#### PERSONAL.

Joseph M. Larimer, manager of the Chicago branch of Jones & Laughlins, Limited, was suddenly seized with a severe illness on the 4th inst. For several days he lay in a critical condition and at one time there were serious doubts of his recovery, but he is now convalescent. Mr. Larimer is one of the most popular men in the Western iron trade, and the report of his serious illness caused widespread concern.

John I. Blair of Blairstown, N. J., one of the great millionaires of this country who is also largely interested in steel works is reported to be seriously ill.

An English paper announces that Jeremiah Head and his son, whom he has recently assumed as a partner, are about to visit the United States. During their stay in this country, which is likely to be continued until at any rate the end of October, they propose to visit some of the Southern States, and their programme includes also a visit to Salt Lake City.

## A Comparison of the Old and the New Rates of Duty.

Articles.	Old Rate. 75¢ per ton.	New Rate. 40¢ per ton.			
Iron ore.....			Galvanized—		
Pig iron, spiegeleisen, ferromanganese and ferrosilicon.....	\$6.72	\$4.00	No. 10 to No. 16.....	3¼¢	per lb. 2½¢ per lb.
Scrap iron and steel.....	6.72	4.00	No. 16 to No. 26.....	3¾¢	1¢ p. lb.+40 %
Bar iron, rolled or hammered, comprising—			Smaller than No. 26 wire gauge....	4½¢	1¢ p. lb.+40 %
Flats not less than 1 inch wide nor less than ⅜ inch thick.....	0.8¢ per lb.		Wire rope and wire strand made of steel wire—		
Round iron not less than ⅜ inch in diameter, and square iron not less than ⅜ inch square.....	0.9¢	0.6¢ per lb.	Not smaller than No. 10.....	3¼¢	1¢ p. lb.+40 %
Flats less than 1 inch wide or less than ⅜ inch thick; round iron less than ⅜ inch and not less than ⅞ inch in diameter; and square iron less than ⅜ inch square.....	1¢		No. 10 to No. 16.....	3¾¢	1¢ p. lb.+40 %
Rolled iron not specially provided for, and round iron, in coils or rods, less than ⅞ inch in diameter.....	1.1¢	0.8¢	No. 16 to No. 26.....	4¼¢	1¢ p. lb.+40 %
Charcoal bars, blooms, billets, or sizes or shapes.....	\$22.00 per ton.	\$12.00 per ton.	Smaller than No. 26.....	5¢	1¢ p. lb.+40 %
All other, and slabs, blooms, or loops.....	35 %	0.5¢	Galvanized—		
Beams and all structural shapes.....	0.9¢ per lb.	0.6¢ per lb.	No. 10 gauge.....	3¾¢	1¢ p. lb.+40 %
Plates (except saw plates), not thinner than No. 10 wire gauge, and skelp—			No. 10 to No. 16.....	4¼¢	1¢ p. lb.+40 %
Valued above 1¢ to 1¼¢ per lb. ....	0.85¢	0.6¢	No. 16 to No. 26.....	4¾¢	1¢ p. lb.+40 %
Valued above 1¼¢ to 2¢ per lb. ....	1.1¢	30 %	Smaller than No. 26.....	5½¢	1¢ p. lb.+40 %
Valued above 2¢ to 3¢ per lb. ....	1.1¢	30 %	Not smaller than No. 5 wire gauge, cold rolled, cold hammered or polished.....	45 % + 2¢	1¢ p. lb.+40 %
Valued above 3¢ to 4¢ per lb. ....	1.5¢	30 %	Wire cloth and wire nettings, made from wire—		
Valued above 4¢ to 7¢ per lb. ....	2¢	25 %	Not smaller than No. 10.....	3.25¢ per lb.	1¢ p. lb.+40 %
Valued above 7¢ to 10¢ per lb. ....	2.8¢	25 %	Galvanized—		
Valued above 10¢ to 13¢ per lb. ....	3.5¢	25 %	No. 10 to No. 16.....	4.25¢	1¢ p. lb.+40 %
Valued above 13¢ per lb. ....	4.5¢	25 %	Steel cold rolled, cold hammered or polished—		
Forgings.....	2.3¢	1.5¢ per lb. (not less than 35 %)	Valued 7¢ to 10¢.....	2.8¢ + ¼¢ p. lb.	1.9¢ per lb.
Hoops—			Valued 13¢ to 16¢.....	4.2¢ + ¼¢	2.8¢
Not thinner than No. 10 wire gauge.....	1¢	30 %	Valued above 16¢.....	7¢ + ¼¢	4.7¢
Thinner than No. 10 and not thinner than No. 20 wire gauge.....	1.1¢	30 %	Plates over No. 10, cold rolled, cold hammered or polished—		
Thinner than No. 20 wire gauge.....	1.3¢	30 %	Valued 2¢ to 3¢.....	1.1¢ + ¼¢	20 %
Steel rails.....	\$13.44 per ton.	7/20¢ per lb.	Valued 3¢ to 4¢.....	1.5¢ + ¼¢	30 %
T-rails and other railway bars—			Sheets, cold rolled, cold hammered or polished—		
Iron.....			No. 10 to No. 20.....	1.25¢ per lb.	0.7¢ per lb.
Steel, or in part of steel.....			No. 20 to No. 25.....	1.35¢	0.8¢
Sheets—			Thinner than No. 25.....	1.65¢	1.1¢
No. 10 to No. 20.....	1¢ per lb.	0.7¢ per lb.	Valued above 16¢.....	7¢ + ¼¢	4.7¢
No. 20 to No. 25.....	1.1¢	0.8¢	Sheets, brightened, blued or polished—		
Thinner than No. 25 wire gauge.....	1.4¢	1.1¢	Valued 4¢ to 7¢.....	2¢ + ¼¢	1.3¢
Corrugated or crimped.....	1.4¢	1.1¢	Valued 7¢ to 10¢.....	2.8¢ + ¼¢	1.9¢
Galvanized sheets, No. 10 to No. 20 wire gauge.....	1.75¢	0.95¢	Valued 10¢ to 13¢.....	3.5¢ + ¼¢	2.4¢
No. 20 to 25.....	1.85¢	1.05¢	Valued 13¢ to 16¢.....	4.2¢ + ¼¢	2.8¢
Thinner than No. 25.....	2.15¢	1.35¢	Valued above 16¢.....	7¢ + ¼¢	4.7¢
Sheets and plates pickled or cleaned by acid, and cold rolled, smoothed, not polished—			Steel circular saw plates—		
No. 10 to No. 20.....	1.25¢	0.825¢	Valued 4¢ to 7¢.....	3¢ per lb.	1.3¢
No. 20 to No. 25.....	1.35¢	0.925¢	Valued 7¢ to 10¢.....	3.8¢	1.9¢
Thinner than No. 25 wire gauge.....	1.65¢	1.225¢	Valued 10¢ to 13¢.....	4.5¢	2.4¢
Sheet iron or sheet steel, polished, planished or glanced.....	2.5¢	1.75¢	Anchors weighing each 25 pounds or more.....	1.5¢ per lb.	1.2¢ per lb.
Tin plates (to take effect October 1, 1894).....	2.2¢	1.2¢	Axles.....	2¢	1.5¢
Tin manufactures of.....	55 %	35 %	Anvils.....	2.5¢	1.75¢
Tin foil.....	55 %	35 %	Hammers and sledges.....	2.25¢	1.5¢
Steel ingots, blooms, billets, forgings, &c—			Tubes.....	2.5¢	25 %
Val. 1¢ per lb. or less.....	0.4¢	0.3¢	Bolts.....	2.25¢	1.5¢
1¢ to 1¼¢ per lb. ....	0.5¢	0.4¢	Nuts and washers.....	2.25¢	20 %
1¼¢ to 1½¢ per lb. ....	0.8¢	0.6¢	Castings—		
1½¢ to 2½¢ per lb. ....	0.9¢	0.7¢	Cast iron pipe.....	0.9¢	0.6¢
2½¢ to 3¢ per lb. ....	1.2¢	0.9¢	Cast iron vessels, plates, stove plates, and irons, sad irons, tailors' irons, and batter's, irons, and castings of iron not specially provided for.....	1.2¢	0.8¢
3¢ to 4¢ per lb. ....	1.6¢	1.2¢	Malleable iron castings, not specially provided for.....	1.75¢	0.9¢
4¢ to 7¢ per lb. ....	2¢	1.3¢	Hollowed ware.....	3¢	2¢
7¢ to 10¢ per lb. ....	2.8¢	1.9¢	Chain or chains of all kinds, made of iron or steel—		
10¢ to 13¢ per lb. ....	3.5¢	2.4¢	Not less than ⅜ inch in diameter... Less than ⅜ inch and not less than ⅜ inch in diameter.....	1.6¢	30 %
13¢ to 16¢ per lb. ....	4.2¢	2.8¢	Less than ⅜ inch in diameter.....	1.8¢	30 %
Val. above 16¢ per lb. ....	7¢	4.7¢	Other.....	2.5¢	30 %
Sheets and plates and saw plates of steel, not specially provided for—			Cutlery—		
Val. 1¢ to 1¼¢ per lb. ....	0.5¢	0.4¢	Penknives valued at not more than 50¢ per dozen.....	12¢ per doz. and 50 %	See text.
1¼¢ to 1½¢ per lb. ....	0.8¢	0.6¢	Valued at not more than 50¢ to \$1.50 per dozen.....	50¢ per doz. and 50 %	See text.
1½¢ to 2½¢ per lb. ....	0.9¢	0.7¢	Valued at \$1.50 to \$3 per doz. ....	\$1 per doz. and 50 %	75¢ per doz. & 25 %
2½¢ to 3¢ per lb. ....	1.2¢	0.9¢	Valued at more than \$3 per doz., razor and razor blades.....	\$2 per doz. and 50 %	60 %
3¢ to 4¢ per lb. ....	1.6¢	1.2¢	Valued at less than \$4 per dozen ..	\$1 per doz. and 30 %	45 %
4¢ to 7¢ per lb. ....	2¢	1.3¢	Valued at \$4 or more per dozen.....	\$1.75 per doz. and 30 %	45 %
7¢ to 10¢ per lb. ....	2.8¢	1.9¢	Swords, sword blades and side arms.....	35 %	35 %
10¢ to 13¢ per lb. ....	3.5¢	2.4¢	Table Knives—		
13¢ to 16¢ per lb. ....	4.2¢	2.8¢	Valued at not more than \$1 per doz. ....	10¢ per doz. and 30 %	35 %
Val. above 16¢.....	7¢	4.7¢	Valued at \$1 to \$2 per dozen.....	35¢ per doz. and 30 %	35 %
Wire rods.....	0.6¢ per lb.	valued at 4¢ or under, 0.4¢ per lb.; valued over 4¢, 0.75¢ per lb.	Valued at \$2 to \$3 per dozen.....	4¢ per doz. and 30 %	35 %
Wire of iron or steel—			Valued at \$3 to \$8 per dozen.....	\$1 per doz. and 30 %	45 %
Flat steel wire or sheet steel in strips of any width, whether drawn through dies or rolls, untempered or tempered, 2½/1000 inch thick or thinner.....	50 %	40 %	Valued at more than \$8 per dozen..	\$2 per doz. and 30 %	45 %
Not smaller than No. 10 wire gauge.....	1.25¢ per lb.	1.25¢ per lb.	All carving and cooks' knives and forks—		
No. 10 to No. 16.....	1.75¢	1.50¢	Valued at not more than \$4 per doz. ....	\$1 per doz. and 30 %	35 %
No. 16 to No. 26.....	2.25¢	2¢	Valued at \$4 to \$8 per dozen.....	\$2 per doz. and 30 %	45 %
Smaller than No. 26.....	3¢	2¢	Valued at \$8 to \$12 per dozen.....	\$3 per doz. and 30 %	45 %
Coated with zinc or tin or any other metal—			Valued at more than \$12 per dozen.....	\$5 per doz. and 30 %	45 %
Not smaller than No. 10.....	1.75¢	40 %	Files—		
No. 10 to No. 16.....	2.25¢	40 %	4 inches in length and under.....	35¢ per doz.	35¢ per doz.
Smaller than No. 26 wire gauge.....	3.50¢	40 %	4 inches to 9 inches.....	75¢ per doz.	60¢ per doz.
Crinoline, corset and hat wire.....	5¢	40 %	9 to 14 inches.....	1.30	\$1.00
Wire of iron or steel, valued at more than 4 cents per pound.....	45 %	40 %	14 inches in length and over.....	2.00	1.00
Galvanized.....	45 % + ½¢ per lb.	40 %	Fire arms—		
Card wire.....	35 %	40 %	Muskets and sporting rifles.....	25 %	25 %
Wire rope and wire strand made of iron wire—			Pistols—		
No. 10 to No. 16.....	2¾¢	2¼¢ per lb.	Valued at not more than \$1.50 each.....	40¢ each and 35 %	30 %
No. 16 to No. 26.....	3¼¢	2¼¢	Valued at more than \$1.50 each....	\$1 each and 35 %	30 %
Smaller than No. 26 wire gauge. ....	4¢	3¢			

Shot guns, double barreled—				Aluminum—			
Valued at not more than \$6 each.	\$1.50 each	30 %		In crude form	15¢ per lb.	10¢ per lb.	
Valued at more than \$6 to \$12 each.	\$4 each and 35 %	30 %		Argentine, albata, or German silver, unmanufactured.	25 %	15%	
Valued at more than \$12 each.	\$6 each and 35 %	30 %		Brass—			
Shot guns, single barreled.	\$1 each and 35 %	30 %		Bars or pigs.	1.5¢ "	10%	
Sheets and plates, wares or articles, of iron and steel.				Old, fit only for remanufacture.	1.5¢ "	10%	
Enameled or glazed with vitreous glasses.	45 %	35 %		Bronze or Dutch metal, in leaf, in packages of 100 leaves.	8¢ per pack.	40 %	
Enameled or glazed with vitreous glasses with more than one color, or ornamented.	50 %	35 %		Aluminum—leaves, in packages of 100 leaves.	8¢ "	40 %	
Nails, spikes and tacks.				Plates, rolled, called brazier's copper, sheets, rods, pipes and copper bottoms.	35 %	20 %	
Nails and spikes, cut.	1¢ per lb.	22.5 %		Sheathing or yellow metal.	35 %	20 %	
Nails, horseshoes, hob and all other not specially provided for.	4¢ "	30 %		Lead, and manufactures of—			
Nails, wire.				Lead contained in silver ore.	1.5¢ per lb.	0.75¢ per lb.	
Shorter than 1 inch and lighter than No. 16 wire gauge.	4¢ "	25 %		Lead contained in other ore and dross.	1.5¢ "	0.75¢ "	
From 1 to 2 inches in length, and lighter than No. 12 and not lighter than No. 16 wire gauge.	2.5¢ "	25 %		Pigs and bars, and old.	2¢ "	1¢ "	
2 inches long and longer, not lighter than No. 12 wire gauge.	2¢ "	25 %		Sheets, pipe, shot, glaziers' lead, and lead wire.	2.5¢ "	1.25¢ "	
Spikes.	1.8¢ "	25 %		Metals unwrought, and metallic mineral substances in a crude state, not specially provided for.	20 %	20 %	
Horse, mule, or ox shoes.	1.8¢ "	25 %		Mica.	35 %	20 %	
Tacks, brads, or sprigs, cut—				Nickel.	10¢ "	6¢ "	
Not exceeding 16 ounces to the M.	2.25¢ per M.	25 %		Pens, metallic, except of gold.	12¢ per gro.	8¢ per gro.	
Needles—				Gold pens.	30 %	25%	
For knitting or sewing machines.	35 %	25 %		Quicksilver.	10¢ per lb.	7 %	
Knitting.	25 %	25 %		Type metal.	13¢ "	0.75¢ per lb.	
Engraved plates of steel.	25 %	25 %		Types, new.	25 %	15 %	
Stereotype and electrolyte plates.	25 %	25 %		Zinc or spelter, and manufactures of—			
Railway fish plates or splice bars.	1¢ per lb.	25 %		In blocks or pigs.	13¢ "	1¢ "	
Rivets.	2.5¢ "	25 %		In sheets.	21¢ "	1.25¢ "	
Saws—				Old and worn out, fit only to be remanufactured.	13¢ "	0.75¢ "	
Circular saws.	30 %	25 %		Manufactures, articles or wares not specially provided for—			
Crosscut saws.	8¢ per lin. ft.	6¢ p. lin. ft.		Brass.	45 %	35 %	
Hand, back and other saws not specially provided for.	40 %	25 %		Buttons, metal.	45 %	35 %	
Mill, pit and drag saws—				Carriages, &c.	45 %	35 %	
Not over 9 inches wide.	10¢ p. lin. ft.	10¢ p. lin. ft.		Clocks.	45 %	25 %	
Over 9 inches wide.	15¢ "	8¢ "		Copper.	45 %	35 %	
Screws—				Gold and silver.	45 %	35 %	
1/4 inch and less in length.	14¢ per lb.	10¢ per lb.		Machinery.	45 %	35 %	
1/2 inch to 1 inch in length.	10¢ "	7¢ "		Iron and steel.	45 %	35 %	
1 to 2 inches in length.	7¢ "	5¢ "		Lead.	45 %	35 %	
More than 2 inches in length.	5¢ "	3 "		Aluminum.	45 %	35 %	
Wheels for railway purposes.	2.5¢ "	1.25¢ "		Bronze.	45 %	35 %	
Ingots, cogged ingots, blooms, or blanks, for railway wheels and tires	1.75¢ "	1.25¢ "		Metals, n.e.s.	45 %	35 %	
				Nickel.	45 %	35 %	
				Platinum.	45 %	35 %	
				Zinc.	45 %	35 %	

## MANUFACTURING.

### Iron and Steel.

The annual meeting of the stockholders of the Pittsburgh Forge & Iron Company, Pittsburgh, Pa., will be held in that city on Tuesday, the 21st inst., for the election of directors for the ensuing year and for such other business as may be brought before the meeting.

Last week the cut nail factory of the LaBelle Iron Works, Wheeling, W. Va., was put in operation.

Almost the entire plant of the Aetna-Standard Iron & Steel Company, Bridgeport, Ohio, is in full operation. This concern have recently extended their list of manufactures and they are now prepared to furnish to the trade promptly black sheets, tin and terne plate, bars, light structural shapes, small rails and specialties for the roofing and building trades.

David B. Oliver, general manager of the Oliver Iron & Steel Company, has made the following official announcement: "A company composed mostly of Eastern people are about being formed to purchase the Fifteenth street structural mill of the Oliver Iron & Steel Company and convert it into a large mill for the manufacture of black sheets for tin plate. Nothing, however, will be positively done until final action is had by Congress on the tariff bill.

The Edgar-Thomson Steel Works, Bessemer, Pa., which have been closed down for several weeks, have again resumed operations.

All the trains of the Reading Rolling Mill Company, Reading, Pa., manufacturers of iron and steel structural shapes, are in operation with a fair amount of orders on hand.

We are officially advised that the statement that the employees of the Wayne Iron & Steel Works of Brown & Company, incorporated, at Pittsburgh, would go on strike on account of that firm asking them to sign an agreement not to become identified with any labor organizations is without foundation. The plant of this concern is being operated non-union, but Amalgamated Association scale rates are being paid and no trouble of any kind among the employees is anticipated.

The affairs of the Elwood Steel Company, Elwood City, Pa., whose plant was recently sold at assignee's sale, have been settled up, and the claims of the different

creditors have been presented and arrangements are being made for the settlement of all liabilities. The auditor states that all claims against the concern will be paid in full within a short time.

The Andrews Brothers Company, Haselton, Ohio, defendants in the suit in the United States Circuit Court at Cleveland, Ohio, brought by the Youngstown Coke Company, have filed an answer alleging breach of contract and setting up a counter claim of \$8465.

The plant of the Coleman-Shields Company, Niles, Ohio, manufacturers of pipe casing and tube iron, was put in operation on Monday, the 16th inst., after a stoppage of eight months. The plant is on full in all departments.

The Bessemer steel plant of the Wheeling Steel & Iron Company, Wheeling, W. Va., which has been idle for some time for lack of Bessemer iron, resumed operations last week.

The Union Chain Works, Allegheny, Pa., have been chartered, with a capital of \$25,000. The directors are Paul Hacke, Pittsburgh; W. S. Prugh and W. C. Reiler, Allegheny, Pa.

The blast furnace of the Sharon Iron Company, Limited, Sharon, Pa., idle for some time for want of coke, blew in last week.

The Girard Plant of the Union Iron & Steel Company, at Girard, Ohio, has been in operation for the past three or four weeks to nearly full capacity.

Jones & Laughlins of Pittsburgh are putting in two traveling cranes, specially constructed by the Morgan Engineering Company of Alliance, Ohio, for handling blooms in and out of horizontal heating furnaces, in addition to two electric traveling tables for serving their blooming mill.

The Youngstown Steel Company of Youngstown, Ohio, are putting in a 5-ton Morgan traveling crane of 30-foot span.

The Morgan Engineering Company of Alliance, Ohio, have just secured an order from the Edgar-Thomson Steel Works for three of their electric overhead traveling charging cranes, for the purpose of charging and drawing ingots in vertical heating furnaces. About a year ago they erected a crane of a similar character at this works, the operations of which are so satisfactory that the management have determined to change their horizontal heating furnaces to those of the vertical type, and are placing in these three additional charging cranes to handle the entire product of

their blooming mill in connection with their rail mills. They are also constructing a 10-ton crane of 60-foot span for the foundry of these works.

The Standard Steel Works of Burnham, Pa., are having built for them, by the Morgan Engineering Company of Alliance, one 25-ton traveling crane of 58-foot span.

The blooming mill of the Cambria Iron Company, Johnstown, Pa., is to be equipped with two traveling tables built by the Morgan Engineering Company of Alliance, Ohio. All the motions are operated by electricity.

The Lebanon Chain Works, Lebanon, Pa., have just completed a contract and made shipment of 600 fathoms 2-inch, 120 fathoms 1 1/4-inch and 120 fathoms 1 1/2-inch U. S. light vessel chain, to the Third Light House District, Tompkinsville, N. Y. Inspection and tests have been very satisfactory.

The plant of the New Albany Forge & Rolling Mill, at New Albany, Ind., which has lain idle for two years, was sold at sheriff's sale August 8, the concern being bought in by the holders of the first mortgage bonds, the majority of which were held by Joseph Josephs & Bros. of Cincinnati, Ohio. The plant will be started up at an early date by the latter, producing principally bar iron, car axles and shafting.

The Scottdale Iron & Steel Company of Scottdale, Pa., have added to their equipment a No. 4 Whiting patent cupola.

Phoenix Furnace of the Brown-Bonnell Iron Company, Youngstown, Ohio, is expected to resume blast this week. This stack has been idle for a long time and has been extensively rebuilt and remodeled, making it one of the most complete blast furnaces, in point of equipment, in the Mahoning Valley.

Advices from New Lisbon, Ohio, state that arrangements have been nearly completed for the erection at that place of a tin plate plant to cost about \$150,000, and which will give employment to several hundred men and boys. The plan now under consideration is to organize a limited stock company with \$60,000 capital, shares being placed at \$100 each, this company to purchase from the tin plate concern 300 village lots in New Lisbon at \$200 each.

The Bessemer steel plant, rolling mill and cut nail factories of the Laughlin Nail Company, Wheeling, W. Va., manufacturers of steel cut nails and spikes, are again in full operation, with reasonable prospects of a continued run. The demand seems to be

better than it has been for cut nails, but as yet the price has not advanced in proportion to the recent advances in both Bessemer pig iron and steel, although it is expected that this will come about in due time if prices of raw material do not recede from those now obtaining. The report that the Laughlin Nail Company would engage in the manufacture of wire nails at an early date is untrue.

After a number of conferences between their employees and the New Castle Wire Nail Company, New Castle, Pa., manufacturers of steel wire nails of all kinds, wage scales satisfactory to both sides have been signed. No material reductions were made, but in some cases some employees suffered a slight lowering in wages, while others were granted an advance. The wire mill of the above concern was put in operation on Monday, the 6th inst., and the wire nail factory on the following morning.

Jenney, Semple & Co. of Minneapolis deny that they have made an arrangement with T. A. Kirkland to handle the product of the Minneapolis Rolling Mill, leased by the latter.

It is stated that the Buffalo Furnace, at Buffalo, N. Y., will blow in during the present week. It has been banked for some time on account of the lack of coke.

The 16-inch mill of the Pennsylvania Bolt & Nut Works, Lebanon, Pa., which had been idle since last fall, is now running on double turn.

The plant of the Nashua Iron & Steel Works, Nashua, N. H., which has been closed for a number of months, has started up with a small force.

Manager Brady of the Bird Coleman and North Cornwall furnaces, Cornwall, Pa., says there are no prospects that either furnace will resume at an early date.

#### Machinery.

The Leeburg Foundry & Machine Company of Pittsburgh, builders of rolling mill and tin plate machinery, have just secured a contract for the entire equipment of the new plant now under erection by the Morton Tin Plate Company, at Cambridge, Ohio, for the manufacture of black sheets for tinning purposes. Included in the order are three hot mills with 24 x 32 inch rolls, three cold rolling mills with 20 x 32 inch rolls and three 36-inch doubling shears with engine attached, two 36-inch vertical squaring shears, one Mesta patent pickling machine and roll lathe capable of turning 24-inch chilled rolls. The hot mills will be driven by a 32 x 60-inch Hamilton-Corliss engine, coupled direct, while the cold rolling mills will be driven by a 24 x 48-inch engine of the same type, coupled direct, both being furnished by the Hoover, Owens & Rentschler Company of Hamilton, Ohio. The buildings will be all iron, the main building being 60 x 200 feet in size, with two lean-tos. The whole plant will be so arranged that it can be extended to six mills, and will be under the management of Ambrose Beard. The capacity of the plant at the start will be 460 boxes of finished black sheets for tinning purposes every 24 hours. It is the intention of the Morton Tin Plate Company to add a dipping department to the plant in the near future.

R. Munroe & Son, boiler manufacturers of Pittsburgh, have a contract with Dilworth, Porter & Co., Limited, spike manufacturers, of that city, for the erection of six 150 horse-power tubular boilers, which measure 18 feet long and 66 inches in diameter. The same firm have just shipped to the Proctor & Gamble Company of Cincinnati, Ohio, two 150 horse-power Munroe patent safety water tube boilers, and a 100 horse-power boiler is being built for the Lincoln Foundry & Machine Company, which concern is erecting a new plant at Pittsburgh.

The Parsons Tool Company of Cleveland, Ohio, have been incorporated with a capital stock of \$50,000. The new concern will engage in the manufacture and sale of a double tool head for iron planers and shapers, patented by F. W. & E. F. Parsons.

The Norwalk Mfg. & Machine Company, Norwalk, Ohio, have a large order for castings for the Wheeling & Lake Erie Railroad.

The Shook, Anderson Mfg. Company of Pittsburgh have been granted a charter of incorporation, with a capital of \$30,000, and will do a general foundry and machine business in Pittsburgh. The directors are C. A. Anderson, J. G. Anderson, Lancaster, Pa.; Levi Shook, James Gohring, J. L.

Shiring, T. E. Clark, Pittsburgh, and L. V. Vandergrift, Jamestown, N. Y. The new concern succeeds to the business and title of the old firm of Rees, Shook & Co.

The Westinghouse Electric & Mfg. Company of Pittsburgh have ready for delivery one of the 5000 horse-power generators to be run by the Falls of Niagara to supply electric power to Buffalo and neighboring places. The generator is said to be the largest ever constructed, being 14 feet in diameter, and will make 250 revolutions a minute.

Wm. Tod & Co., engineers, founders and machinists, Youngstown, Ohio, have just furnished to the Edison Company, at Brooklyn, N. Y., an engine especially designed to meet the requirements of a direct connected electric light service. The type is a three-cylinder compound marine engine, as far as such a construction is adopted to the requirements of this work. The two fly wheels on the engine weigh about 18,000 pounds each. The engine will be speeded at the rate of 110 revolutions per minute and will develop 1200 horse-power, with 130 pounds of steam pressure. The general design of the machine is vertical, with cylinders fore and aft, there being three sets of cranks at an angle of 120°. Two fly wheels are mounted on each crank shaft, between the cylinders, and at the ends of the shafts are the generators. These will have 1064 electrical horse-power. The engine will be used by the Edison Company for lighting purposes and power use.

Manning, Maxwell & Moore of New York report that they have just received the following orders for the Shaw three motor electric traveling cranes, built by the Shaw Electric Crane Company, Muskegon, Mich., for whom they are the sole agents: Pittsburgh Tin Plate Works, a 12-ton crane; Henry R. Worthington, a 30 ton crane, and The Midvale Steel Company, Nicetown, Philadelphia, a 40-ton double trolley crane. The latter concern have one 80-ton, two 40-ton and two 20-ton Shaw electric cranes.

The plant of R. R. Howell & Co., Minneapolis, Minn., which was recently destroyed by fire, is now being rebuilt. They are adding considerable machinery, among which is a 54-inch planer and a 30-inch lathe purchased from the Lodge & Davis Machine Tool Company of Cincinnati, Ohio.

The Morgan Engineering Company of Alliance, Ohio, have lately secured orders for a 15-ton 50-foot span traveling crane for the Laidlaw-Dunn-Gordon Company, Cincinnati; a 5-ton 50-foot span, and a 3-ton locomotive type crane (both operated by electric motors) for the American Machine Company, Pawtucket, R. I.; one of 20-ton 70-foot span and one of 40-ton 40-foot span for Macintosh, Hemphill & Co., Pittsburgh. They have recently shipped a traveling crane of 30 tons' capacity, 75 feet span, fitted with double trolleys, to the American Steel Foundry Company, St. Louis; one 20 ton crane supplied with their patented auxiliary hoists to the United Verde Copper Company, Granite Station, Ariz.; one 25-ton 55 foot span traveling crane to the Johnson Company, Johnstown, Pa., this being the second furnished to this company.

S. F. Bowser & Co., Fort Wayne, Ind., whose entire establishment was destroyed by fire on the 28th ult., advise us that the insurance has been settled satisfactorily and plans are now being drawn up for the erection of larger brick structures and as near fire proof as it is possible to build them. It is expected that the new plant will be ready for occupancy within 60 days and the company hope to be shipping goods within ten days from temporary quarters.

The voluntary assignment of the Scoville Iron Works to Eugene M. Scoville has been recorded in Chicago. The statement gives assets at \$45,000 and liabilities at \$44,000. The chief creditors are: A. Bolter & Sons, \$7069; Home National Bank, \$5715; Erie City Iron Works, \$3630; H. H. Scoville, \$3585. The assets are mainly in contracts, amounting to \$25,920. The stock in the works at 250-254 South Clinton street is inventoried at \$19,815. The officers of the company are: H. H. Scoville, president; D. D. Drummond, vice-president, and F. B. Macowber, secretary and treasurer.

The Gates Iron Works have leased property on Hawthorne avenue, Chicago, on which a new machine shop will be built.

The Worthington Hydraulic Works, at Brooklyn, N. Y., have decided to make large additions to their already extensive

plant and have placed the contract for this work with the Berlin Iron Bridge Company of East Berlin, Conn.

Heyl & Patterson of Pittsburgh have a contract for the erection of a boiler house for the new plant of the Westinghouse Electric & Mfg. Company, Brinton, Pa. The same firm have the contract for the erection of a plant for the South Side Gas Company of Pittsburgh for storing coal, which will have a capacity of 33,000 bushels.

The Porter Foundry & Machine Company, Allegheny, Pa., have just added to their equipment a 50 horse-power engine, designed by themselves, whose parts are all on the outside, in plain view, and which is said to be very simple in construction. It replaces an engine which was in continual service by this firm for 28 years. This firm have just finished building an engine for a small steam yacht which was tested recently and attained a speed of 669 revolutions per minute.

It is reported that the Baldwin Locomotive Works of Philadelphia are about to purchase from the Mercantile Trust Company of Pittsburgh, acting for the Hay estate, a plot of ground in Homestead Borough, near the Homestead Steel Works, containing about 50 acres. If the purchase is consummated the Baldwin Locomotive Works will erect a large plant on the property for the manufacture of locomotives.

The employees of the insolvent Rogers Foundry Company, Belleville, Ill., are organizing a co-operative company with the intention of operating the foundry.

Forty of the employees of the Buckeye Iron & Brass Works, Dayton, Ohio, went on strike because their wages were not raised to the old standard in vogue before May 1, at which time they were cut 10 per cent. The company claim to have taken a number of contracts at a low price for the sole purpose of keeping the men at work, and that to restore wages now would involve a heavy loss on the contracts already in hand.

The reorganized Common Sense Engine Company of Muncie, Ind., is building a three-story brick warehouse, which, when completed, will be connected with the present plant.

The machine shop and foundry of Emery & Son, at Franklin, Pa., have been destroyed by fire, entailing a loss of \$6000.

Seventy-five men, the entire working force in the foundry of the McCullough Iron Company, at Wilmington, Del., struck on the 9th inst because the company refused them an increase in wages of 10 per cent. The company say the condition of business does not warrant an increase at this time, and they will endeavor to operate their foundry with new men.

The Sessions Foundry Company have purchased an extensive tract of land at Bristol, Conn., on which, it is stated, they will erect a large iron foundry. The entire plant of the company will be removed to the new location.

Wm Swindell & Bros., consulting and contracting engineers, Pittsburgh, Pa., have received a contract for the complete furnace equipment of new Lincoln Foundry & Machine Company, Pittsburgh, Pa. This comprises air and brass furnaces, core ovens and annealing furnaces. They have just completed a new steel foundry for the New York Frog & Switch Company, Hoboken, N. J., including a 7-ton O. H. furnace, annealing furnaces, core ovens and gas producers, and have built a 15-ton air furnace for Frank-Kneeland Company, Pittsburgh, Pa. Wm. Swindell & Bros. have recently obtained the agency for Duff's water seal gas producer, which is used extensively in Scotland and England, and is being introduced in this country with success. The Duff system can be applied to any of the present forms of gas producers in use at a moderate cost.

#### Hardware.

The Spicer Mfg. Company of New Philadelphia, Ohio, report large shipments of their sheet metal trucks within the past week to Falcon Tin Plate & Sheet Company, Niles, Ohio; New Castle Steel & Tin Plate Company, New Castle, Pa., and Caldwell & Peterson Company, Wheeling, W. Va.

Sidney Shepard & Co., Buffalo, N. Y., have just completed the erection of a new galvanizing plant, built upon the latest plans and using the most recent methods. Their large business in coal hods and other

galvanized ware has made it necessary to make this extension in their facilities.

The Ohio Mop, Pail & Wringer Company of Toledo have been incorporated with a capital stock of \$10,000.

The Baackes Wire Nail Company, Cleveland, resumed operations on the 6th inst. with a full force of men.

The McKinnon Dash & Hardware Company of Buffalo, N. Y., have filed a certificate of an increase of their capital stock from \$50,000 to \$100,000.

The Grand Rapids Cycle Company, Grand Rapids, Mich., are about erecting on a residence lot adjoining their factory a three-story and basement brick building, covering the entire ground. The building will contain assembly room, shipping department, stock room and japanning department, besides pleasant and convenient offices. This addition to their plant, it is remarked, will enable the company to largely increase their product for 1895, and indicates the growing requirements of the business.

The Wright & Colton Wire Cloth Company, Worcester, Mass., are greatly enlarging their power plant, preparatory to increasing both their wire cloth weaving and wire drawing departments in the near future. The company have just set a large high pressure steel boiler, 19 feet 6 inches long by 6 feet in diameter, built by Stewart & Sons of that city, which gives a total of over 300 horse-power boiler capacity. The company have built a new engine house, one story brick, 60 x 40 feet, with large basement. In the basement will be located boiler feed pumps, power artesian well pump to fill the two large storage tanks with water from the 200-foot artesian well, some 10,000 gallons being used daily in the various parts of the works, and also a large double duplex hydraulic pump now located in the boiler room will be removed to the basement of the new engine house for running the hydraulic cranes. On the floor above will be located the Edison dynamos, one of which lights dark places during the day while the larger is only run nights and is capable of lighting the whole establishment. The dynamos and switchboard will be inclosed by a glass partition in one corner of the engine room. The two engines now running the works will soon be taken out and a large 350 horse-power automatic slow speed engine will be placed in the new building by the Slater Steam Engine Company of Warren, Mass. The engine is especially designed for heavy wire mill work and will weigh over 30 tons. The engine is known as the "Slater-Brown." It is claimed that the new engine combines some of the best points of several of the best known engines now built, and is to be second to none in simplicity and economy. The engine wheel is 16 feet and weighs 15 tons, and drives a 33-inch belt to a receiving pulley 10 feet in diameter and weighing 5 tons. There will be an idler pulley for taking up looseness in the belt, and this will be built in the machine shop of the company. A 275 horse-power friction clutch coupling will be furnished by the Akron Iron Company, Akron, Ohio, for throwing in or out the wire mill without stopping the engine. The main receiving shaft is 8-inch hammered iron hung in ring oiling bearings of the most approved make, also furnished by the Akron Iron Company. When the plant is completed the company will have one of the best power plants in Worcester. Although the prices of all kinds of goods are very low the company advise us that they have been able to market their goods so as to keep running for five months during the winter and spring, night and day, with over 225 hands.

The Sampson Mfg. Company of Hartford, Conn. have been incorporated by C. F. Doebler and others to manufacture Hardware and machinery. The capital stock is \$10,000.

#### Miscellaneous.

The Chicago & Eastern Illinois Railroad Company have signified their intention to remove their shops from Brazil, Ind., to Momence, Ill., because the former city did not give their property there sufficient protection during recent labor troubles. If the shops are removed it is said that the city of Brazil will sue the company for \$20,000 given the road as a bonus when the shops were built, on the provision that they should be maintained there.

Radford Pipe & Foundry Company, Radford, Va., have overhauled their plant, changing their charging house and putting in a No. 10 Whiting cupola with a capacity of 20 tons per hour.

## The Iron and Metal Trades.

It is too early to experience any effects which the removal of the tariff agitation will have upon general business, and upon the iron and metal trades in particular. In the iron trade the only visible result directly growing out of the reductions is a lowering in the quotations of foreign Spiegeleisen and Ferromanganese. In the former nothing is doing anyhow, and in the latter it is merely a question whether the Pittsburgh producer will lower prices enough to keep the whole trade east of the Allegheny Mountains.

For this season's crop the Cotton Tie purchases have been made from American mills, so that nothing is expected in that direction.

It will probably take some time before the policy of the Welsh Tin Plate producers is defined. The dippers of foreign Black Plates are counted out, and they stand before the problem of saving what they can out of the investments made. A marked lowering in the price of Tin Plate is of course expected.

The Lead situation is peculiar, but it is the conviction of authorities in the trade that a considerable lowering in the price of Domestic Lead must gradually develop.

Thus far in the Iron trade no marked volume of orders has been noted. It is probably too early to expect it. Yet there is, on the whole, a general disinclination to take a very sanguine view of the matter. It is acknowledged on all sides that some improvement in business should follow the adjournment of Congress. Those who enjoy worrying have now turned to the crop situation as a topic for mournful forebodings.

The week has not been fruitful of happenings in the Iron trade. A new source of trouble threatens the Connells-ville Coke region in the scarcity of water. Additional furnaces have blown in in Western Pennsylvania and Ohio, but still Bessemer Pig and Steel Billets hold their own fairly well. There is more inquiry for Wire Rods, but buyers and sellers are still apart.

In Finished Material there has been more activity, but prices are again weakening under the active competition of the mills, every one of which wants to run full in order to reduce cost to a minimum. Some good orders have been secured in different parts of the country, but Pittsburgh and the neighboring districts have taken all the work.

From Birmingham comes the news that the coal miners' trouble is practically settled. Some of the Birmingham furnace interests are trying to get more money for certain grades, and there has been some talk among Eastern Pennsylvania works with the same end in view. But nothing can really be done until the weak kneed furnaces stop forcing the markets.

## Chicago.

(By Telegraph.)

Office of The Iron Age, 59 Dearborn street, CHICAGO. August 15, 1894.

The news of the passage of the tariff bill is received here with much satisfaction, although the bill itself is almost universally denounced, but the tariff agitation was killing business just as the drought was killing the crops, and the people were anxious to see both come to an end speedily. It is too early to perceive any effects from the settlement of the tariff question, but it comes at an auspicious time, just as the fall trade is about to open up. Railroad business has improved remarkably within the past two weeks. It seems almost incredible, but it is nevertheless true, that some of the roads in this vicinity are actually blockaded with freight. Large systems are unable to handle all the business being poured in upon them by their feeders.

**Pig Iron.**—Local Coke continues to monopolize the trade. Sales have been recently made in localities that for some years had been wholly given over to Irons from other sections. General consumers in this vicinity are increasing their purchases and shipments are rapidly swelling. Few orders are now being placed which do not call for deliveries to begin promptly. Southern furnace agents report small sales, but state that they are selling about all the Iron now available from their furnaces, some grades being in very short supply. The Tennessee Company have advanced prices this week 25¢ on No. 2 Foundry. A fair inquiry is being received for Soft Irons, but consumers are slow to contract at prices now ruling. Lake Superior Charcoal is still very quiet. Quotations are given as follows for cash:

Local Superior Charcoal.....	\$14.25 @	\$15.00
Local Coke Foundry, No. 1....	10.25 @	10.50
Local Coke Foundry, No. 2....	10.00 @	10.25
Local Coke Foundry, No. 3....	9.50 @	10.00
Local Scotch.....	10.25 @	10.50
Ohio Strong Softeners No. 1....	13.00 @	13.50
Southern Silvery, No. 1.....	..... @	.....
Southern Silvery, No. 2.....	..... @	.....
Southern Coke, No. 2.....	10.75 @	11.25
Southern Coke, No. 3.....	10.50 @	10.75
Southern, No. 1, Soft.....	10.75 @	11.25
Southern, No. 2, Soft.....	10.50 @	10.75
Tennessee Charcoal, No. 1....	..... @	.....
Tennessee Charcoal, No. 2....	..... @	.....
Alabama Car Wheel.....	17.50 @	18.00
Jackson County Silvery.....	15.25 @	16.00
Other Ohio Silvery.....	14.25 @	14.50
Coke Bessemer.....	11.25 @	11.50
Malleable Bessemer.....	10.50 @	11.25

**Bars.**—Recent competition on season contracts for Bar Iron has weakened the prices. Some absurdly low figures have again been made by manufacturers who seem determined to run even if they lose money on every ton. Valley Mills now quote the equivalent of one-eighth, Chicago, while near by mills are selling Common Iron from Old Rail Mixture at 1.05¢ @ 1.10¢ and Guaranteed Iron at 1.15¢ @ 1.20¢. Soft Steel Bars are still in smaller demand than Iron with strictly Billet stock quoted at 1.25¢ @ 1.30¢, Chicago. Small lots from store are unchanged at 1.25¢ upward for Iron and 1.35¢ upward for Soft Steel.

**Structural Material.**—The demand for Bridge work is larger, inquiries being on the market for 2000 tons or more. The Bridge builders complain of excessive competition in their trade and it is difficult to see how contracts now being taken can be filled without loss. Building Shapes are wanted in small lots only. But the volume of business is fair, especially with country contractors and consumers. Quotations on mill shipments, Chicago delivery, are

as follows: Beams and Channels, 1.50¢; Tees, 1.65¢; Angles, 1.45¢; Universal Plates, 1.45¢. Small lots from stock sell at 1.75¢ for Beams and Channels; 1.50¢ @ 1.60¢ for Angles, and 1.70¢ @ 1.80¢ for Tees. The inquiry is better from general consumers and fair sales are reported from mill and from store.

**Plates.**—The principal demand recently has been for Stand Pipes for water works. Some manufacturers are endeavoring to work up an advance, being comparatively well fixed for orders. Mill shipments, Chicago delivery, are quoted as follows: Tank Steel, 1.45¢ @ 1.55¢; Flange Steel, 1.65¢ @ 2.10¢; Fire Box, 1.65¢ @ 5¢. Store prices are as follows: Iron or Steel Sheets, Nos. 10 to 14, 1.80¢ @ 1.90¢; Tank Steel, 1.65¢ @ 1.85¢; Flange Steel, 2¢ @ 2.15¢; Boiler Tubes, in carloads, 70 % @ 75 % off.

**Sheets.**—Black and Galvanized Sheets are quiet and unchanged. Mill shipments of No. 27 Common are held at about 2.40¢ @ 2.45¢, Chicago; No. 27 Soft Steel at 2.50¢ @ 2.55¢, and Galvanized sheets at 77½ % @ 80 % off; Sheet Copper, 14¢, with no discount. Small lots of No. 27 Common from stock are selling at 2.60¢ @ 2.70¢, and Galvanized Sheets at 75 and 5 %.

**Merchant Steel.**—Some small season contracts for specialties have recently been placed, but general trade is not large. Mill shipments, Chicago delivery, are quoted as follows: Smooth Finished Machinery Steel, 1.60¢ @ 1.70¢; Smooth Finished Tire, 1.60¢ @ 1.70¢; Open Hearth Spring Steel, 1.85¢ @ 1.90¢; Bessemer Machinery, 1.50¢ @ 1.55¢; Bessemer Tire, 1.40¢ @ 1.45¢; Ordinary Tool Steel, 5½¢ @ 7¢; Specials, 10½¢ and upward.

**Billets and Rods.**—The situation has altered materially. The outlook for the Billet trade is better. Inquiries are being received for fair quantities and large consumers now intimate that they will require a full supply to meet their wants for the remainder of the year. Prices are unchanged at \$18.25 @ \$18.50. Wire Rods promise to be in good demand owing to a heavier business in Wire, and the local mills are expected to be operating to their full capacity after September 1. Makers quote \$25 25.

**Rails and Track Supplies.**—Very little new business in Steel Rails is reported. Quotations are continued as follows: Standard Rails, \$25 @ \$27; Steel Splice Bars, 1.25¢ @ 1.35¢; Track Bolts, with Nuts, 2.10¢ @ 2.20¢; Spikes, 1 70¢ @ 1.80¢; Links and Pins, 1.65¢ @ 1.70¢.

**Old Rails and Car Wheels.**—In the absence of transactions Old Iron Rails are nominally quoted \$10 @ \$10.50. Old Steel Rails \$7.75 @ \$10 according to length and selection, and Old Car Wheels, \$10 @ \$10.50.

**Scrap.**—Little is doing. Dealers quote the following selling prices net ton: Railroad Forge, \$9; Dealers' Forge, \$8 @ \$8.50; No. 1 Mill, \$6.50; Pipes and Flues, \$6; Iron Axles, \$12.25 @ \$12.50; Steel Axles, \$12.75 @ \$13; Heavy Cast, \$7 @ \$7.50; Stove Plate, \$5 @ \$5.50; Fish Plates, \$9.50; Horseshoes, \$9; Mixed Steel, gross ton, \$5.50.

**Metals.**—Copper is quiet, carload lots of Lake standing at 9½¢ and Casting Copper 8½¢ @ 9¢. Spelter is a trifle weaker at 3 20¢ @ 3.22½¢. A few carload lots of Pig Lead have changed hands at

3 35¢, but buyers and sellers are now holding aloof from the market until they can form some conclusion as to the effect of the new tariff.

Pickands, Brown & Co., The Rookery Building, Chicago, have issued a circular calling attention to their brands of Chicago Pig Iron, as follows: Bay View.—No. 1. Open, strong and clean, suitable for general work. No. 2. Strong and clean, suitable for general work. No. 3. Suitable for car castings and a good filler. Milwaukee Scotch.—Nos. 1 and 2. Standard softener, made expressly for fluidity. Silicon 3 to 3½ per cent. Gertrude.—Nos. 1 and 2. Ordinary softener. Union Bessemer.—Nos. 1 and 2. Very strong, without shrinkage; for best machinery work. Standard Bessemer.—Nos. 1, 2 and 3. Suitable for all kinds of Bessemer, Open Hearth, Malleable and Car Wheel work. Silicon, 1 to 3 per cent. Manganese, ½ to 1½ per cent. Phosphorus, 0.07 to 0.10. Stocks of these Irons are constantly on hand.

## Philadelphia.

Office of *The Iron Age*, 220 South Fourth St., PHILADELPHIA, Pa., August 14, 1894.

The situation in Iron and Steel shows very little actual change, but movements are so varied and so confusing that the trade are frequently led to believe that something is going to happen right away. But very little does happen beyond the usual day-to-day trade, prices at the end of the week being just about as they were the week previous. The past week has been no exception. Steel seemed as though it might go lower, but when buyers look for it at a decline it is not in the market. Finished Material for a while looked as though it might go higher, but that too has been a miscalculation, and to-day orders can be placed at lower figures than at any time during July. Under such conditions it is useless to attempt any forecast of the market. All that can be said is that there is a better demand, larger offerings and irregular but practically unchanged prices. The settlement of the tariff is expected to give things a start, not because the bill is satisfactory in any sense of the word, but, as the phrase goes, "anything is better than nothing." There is plenty of room for business improvement, conditions are favorable for it, and now it will be seen what the tariff will do to help matters along.

**Pig Iron.**—The market is very steady for this article, the large increase in production during the past 30 days not having been felt as yet. Prices are firm all along the line, some claim that they are higher, and while that may be so in individual cases it is, nevertheless, true that Iron can be found at the old figures for moderate quantities. Alabama Irons are practically out of the race, the figures asked being entirely prohibitory for the time being. Western Irons are also less in evidence than they have been for some time, so that the trade is divided between Virginia Irons and those made in Eastern Pennsylvania. The demand is somewhat larger than it has been, but not enough to do more than offset the increased supply. At \$10 for good mill Irons there has been a fair business for deliveries at such points as York and Harrisburg, and at \$10.25 @ \$10.50, seaboard, but it would be difficult to pick up anything at those figures to-day, as sellers are pretty firm in asking

25¢ per ton advance; in some cases more than that. The general market, however, may be quoted about as follows:

Bessemer.....	Nominal,	\$13.25 @	\$13.50
Standard No. 1 Foundry X.....		12.50 @	13.00
Standard No. 2 Foundry X.....		11.50 @	12.00
No. 2 Plain.....		10.75 @	11.00
No. 1 Soft.....		11.50 @	11.75
No. 2 Soft.....		10.75 @	11.00
Standard Gray Forge.....		10.50 @	10.75
Ordinary.....		10.25 @	10.50

**Muck Bars.**—Sales are being made at about \$19.50, f.o.b. cars, sellers' mills, although some holders quote \$20 and upward and are very firm.

**Steel Billets.**—Market dull but firm. Consumers are very unwilling to pay \$19.25 @ \$19.50, which is about the best that can be done for August and September, and for later dates they talk \$18 @ \$18.50. Makers are well sold up, however, and whatever they may do later on, they seem pretty well determined for the present to maintain firm quotations as above mentioned—\$19.25 @ \$19.50, for prompt shipments, and possibly 50¢ less for October, November and December.

**Finished Material.**—There is no special change to note under this heading. The demand is about stationary, somewhat better for small lots, but nothing of any account in large work. Pittsburgh is again an active competitor for business, and has taken some of the large orders that were supposed to belong to local mills, hence a slight weakening in prices. Small orders, as already stated, are very numerous, and some of the mills are running full on this class of work, but on anything counting up to 100 tons and over, the West name figures that are sure to get the business, unless local mills make special prices. Bars have sold at as low prices as during the Spring months, and on the whole the market for rolled material may be considered moderately active, but at prices which are irregular and weak. General asking prices about as follows:

Grooved Skelp.....	1.25¢ @	1.30¢
Standard Refined Bars.....	1.20¢ @	1.30¢
Medium quality.....	1.10¢ @	1.15¢
Tank Steel.....	1.35¢ @	1.40¢
Heavy Plates.....	1.30¢ @	1.40¢
Shell.....	1.50¢ @	1.60¢
Flange.....	1.60¢ @	1.80¢
Angles.....	1.40¢ @	1.50¢
Beams and Channels.....	1.50¢ @	1.60¢

**Old Material.**—The demand is improving, but prices are unchanged, except for special qualities, for which buyers are willing to pay a slight advance. Stocks are in small compass, and holders are beginning to look for better prices, but in the meanwhile quotations are about as follows:

Heavy Melting Steel.....	\$10.00 @	\$10.50
Light Melting Steel.....	8.40 @	8.50
No. 1 Wrought Scrap.....	10.50 @	11.00
Machinery Cast.....	9.50 @	10.00
Wrought Turnings.....	8.00 @	8.50
Cast Borings.....	6.25 @	6.75
Old Iron Rails.....	11.50 @	12.00
Old Car Wheels.....	9.50 @	10.00

## Cincinnati.

(By Telegraph.)

Office of *The Iron Age*, Fifth and Main Sts., CINCINNATI, August 15, 1894.

There has been an undertone of confidence in the market for Southern Pig Iron during the week ending to-day, as there has been for several weeks, and it has developed to an advance of 25¢ per ton on No. 2 Foundry. Some furnaces are asking still higher prices, but it is not what they ask, but what they can obtain that establishes the market prices, and the rate fairly quotable for No. 2 Foundry is \$7.50 per ton f.o.b.

Birmingham, and No. 1 Foundry is \$8.25, but the demand for the latter is small. There was a sale of 1600 tons Gray Forge a few days ago, at \$6.60 f.o.b. Birmingham, to go to Louisville, and there were some considerations that indicate the market to be fairly quotable at \$6.75. There is little No. 3 Foundry offered or wanted, and the price of that and of Mottled Coke Iron is without quotable change. There is more urging to sell Lake Superior Car Wheel and Malleable Iron, and much lower prices have been accepted. There has been some increase in the supply of fuel in the South, but there remains some minor troubles to be adjusted, which it is thought will be harmonized before long, and that supplies of Iron will soon be more adequate, but under the prevailing sentiments prices are likely to be sustained. Quotations are as follows:

**Foundry.**

Southern Coke, No. 1.....	\$10.50 @	\$10.75
Southern Coke, No. 2.....	9.75 @	10.00
Southern Coke, No. 3.....	9.25 @	9.50
Ohio Soft Stone Coal, No. 1....	14.50 @	15.50
Ohio Soft Stone Coal, No. 2....	14.00 @	14.50
Lake Superior Coke, No. 1.....	12.50 @	13.00
Lake Superior Coke, No. 2.....	11.50 @	12.00
Hanging Rock Charcoal, No. 1..	16.00 @	17.00
Hanging Rock Charcoal, No. 2..	15.50 @	16.00
Tennessee Charcoal, No. 1.....	13.00 @	13.50
Tennessee Charcoal, No. 2.....	12.00 @	12.50

**Car Wheel and Malleable Irons.**

Standard Southern Car Wheel	16.25 @	17.00
Lake Superior Car Wheel and Malleable.....	15.25 @	15.75

**Forge.**

Gray Forge.....	9.00 @	9.25
Mottled Coke.....	8.50 @	8.75

**Pittsburgh.**

Office of *The Iron Age*, Hamilton Building, }  
PITTSBURGH, August 14, 1894. }

The Iron and Steel markets remain in about the same condition as noted last week. There is a fair demand for both Raw and Finished Material, but it is altogether for small lots. The larger concerns, in order to run as near to full capacity as they can, and thus turn out Material at the lowest possible cost, are hunting more vigorously for orders and are making slight concessions to get them. The Coke strike continues to be the key to the situation, and just as soon as it is ended it is not improbable that prices on Bessemer Pig and Billets will sag a little. Whether it will extend to Finished Material is somewhat problematical. Should a material decline come in Billets it is not improbable that the finished article would also feel it. The situation in the Connells-ville region continues to improve and output and shipments last week were very fair.

**Pig Iron.**—The Valley furnaces made some progress last week toward getting started, several furnaces getting enough Coke ahead, and promised, to warrant them in lighting up. At this writing Rosena, Raney and Berger, Etna, Stewart, Girard, Sharon and Haselton are going, and two or three more stacks hope to start this week. There is an urgent demand for small lots of Bessemer for close delivery, but no large blocks are under negotiation. Some of the Eastern mills who bought largely of Bessemer some three months ago are in need of Iron and are pushing furnaces for deliveries. A number of inquiries for Gray Forge have come into the market during the past week and several sales of small lots of 500 and 1000 ton lots are reported. The demand for Foundry Iron continues light but the supply is very limited and

prices are firm. For close delivery we quote as follows:

Neutral Gray Forge.....	\$9.90 @	\$10.00 Cash.
All-Ore Mill.....	9.75 @	10.00 "
No. 1 Foundry.....	11.75 @	12.00 "
No. 2 Foundry.....	10.75 @	11.00 "
Bessemer.....	11.75 @	12.00 "

We note a sale of 1000 tons of Bessemer at \$11.75, Pittsburgh, and one of 1000 tons at \$11.80, Pittsburgh, both for August delivery. We also note a sale of 1500 tons of Bessemer for August and September delivery at \$11.50, Pittsburgh. Also a sale of 500 tons of Gray Forge at \$9.90, Pittsburgh.

**Billets.**—The demand continues to be confined to small lots for close delivery. Some of the Pittsburgh mills are sold up for this month and are declining to take any more orders for August delivery. Buyers still refuse to come into the market for large blocks and are buying only as immediate requirements demand. For August delivery we quote at \$17 @ \$17.25 at makers' mill. We note a sale of 1000 tons at a price equal to about \$17 at makers' mill for August delivery. Also a sale 1000 tons at \$17 at mill for August and one of 500 tons at \$17.10, same delivery.

**Ferromanganese**—Is unchanged at \$53 delivered at buyer's mill, for 80 % domestic.

**Structural Material.**—There is a fair demand, but it is not as heavy as a month or two ago. Some bridge work is coming in and the large office building is to be erected here by the Tradesmen's National Bank will soon be ready for bids. We quote Beams and Channels up to 15 inches, at 1.30¢ @ 1.40¢, according to order. In round lots, 1.25¢ is being done. We quote Angles and Universal Plates at 1.20¢ @ 1.25¢, and Tees, 1.40¢ @ 1.50¢.

**Plates.**—Pittsburgh took an order last week for about 750 tons of Ship Plates on which a low price was made. We quote as follows: Tank Steel, 1.20¢ in round lots and 1.25¢ @ 1.30¢ for ordinary business; Shell is ruling at 1.35¢ @ 1.40¢ and Flange at 1.45¢ @ 1.50¢; Ordinary Fire Box, 2½¢ @ 3¢; Railroad Fire Box, 3.35¢ @ 3.50¢.

**Muck Bars.**—Demand is very dull and we quote at \$19 @ \$19.25, delivered, for best grades.

**Bars.**—The mills are busier and running to nearly full capacity, so it is fair to assume that the demand is better. However, the desire to run as full as possible and thus secure the lowest cost for output is causing mills to canvass vigorously for orders and prices are slightly weaker. We quote Common Iron Bars at 1¢ @ 1.05¢, according to order. We quote Steel Bars from all Billet stock at 1.05¢ @ 1.10¢, with Bar Iron extras.

**Merchant Steel.**—There is nothing new to report and we repeat quotations as follows: Bessemer Machinery, 1.30¢ @ 1.35¢; Open Hearth Spring, 1.65¢ @ 1.70¢; Open Hearth Machinery, 1.45¢ @ 1.55¢; Machine Straightened Tire, 1.60¢ @ 1.65¢; Cold Rolled Shafting, 2.30¢ @ 2.35¢; Tool Steel, 5¢ @ 7¢ for ordinary grades; 11¢ @ 13¢ for extra grades.

**Barb Wire.**—While the demand is light, as it always is at this season of the year, makers report the outlook for fall trade as very fair, although it is hardly expected to be as heavy as desired. Prices show no material change, and we quote Four Point Galvanized at \$2.05 @ \$2.10, in carload lots at mill, and Plain Wire at \$1.30 in same quantities.

**Wire Nails.**—The improved demand referred to last week continues, and as stated before, stocks are very light, but notwithstanding this prices show no improvement. We continue to quote Wire Nails at \$1.10 in carload lots, while some makers continue to ask \$1.15 at mill. The demand for Cut Nails seems to be better than for some time, but as yet prices have not advanced in proportion to the recent advances in both Bessemer Iron and Steel, although this is expected to come about if the improved demand continues and prices of Raw Material do not recede from those now ruling. We quote Cut Nails at 90¢ in carload lots at mill, for usual averages.

**Wire Rods.**—There are still a number of inquiries in the market, aggregating considerable tonnage, but views of buyers and sellers as to prices are considerably apart, with the result that few sales are being effected. For small lots makers ask \$24 at mill, but for round lots this price would be shaded.

**Skelp Iron and Steel.**—There is nothing new and we quote as follows: Grooved Steel Skelp, 1.05¢ @ 1.10¢; Sheared Steel Skelp, 1.15¢ @ 1.20¢; Grooved Iron Skelp, 1.25¢ @ 1.30¢; Sheared Iron Skelp, 1.35¢ @ 1.40¢.

**Sheets.**—Trade is not very active, but, as before noted, most of the mills are pretty well fixed with orders booked some time ago. We continue to quote No. 24 Common Iron Sheets at 2.25¢ @ 2.30¢; No. 27 Steel at 2.35¢ @ 2.40¢. Galvanized Sheets are ruling at 75 @ 5 % off for small lots.

**Connellsville Coke.**—The situation in the Connellsville region continues encouraging, the output and shipments last week being considerably in excess of any week for some time. However, another trouble is staring the Coke operators in the face, this being the want of water, and which has already necessitated the blowing out of quite a number of ovens. Should the dry weather continue, additional ovens will have to be blown out, and if this occurs shipments will necessarily fall off and may result in some furnaces being compelled to bank.

**St. Louis.**

(By Telegraph.)

Office of *The Iron Age*,  
Bank of Commerce Building, }  
ST. LOUIS, August 15, 1894. }

**Pig Iron.**—The situation improves very slowly. Consumers are gradually increasing their orders, and furnaces are holding their prices firm. Production will shortly be increased by the blowing of furnaces, but as most of the furnaces have a fair share of business on their books this increase will not materially affect prices. There is no disposition among furnacemen to solicit long time contracts, as they anticipate an upward move before the year closes. At \$10.50 No. 2 foundry seems bottom, and furnaces refuse to shade this price. Gray Forge is firmly held at \$9.50. The total sales for the week will foot up about 2000 tons, which is considered satisfactory for these times. We quote as follows for cash, f.o.b. cars St. Louis:

Southern Coke, No. 1 Foundry.....	\$11.00 @	\$11.25
Southern Coke, No. 2 Foundry.....	10.25 @	10.50
Southern Coke, No. 3 Foundry.....	9.75 @	10.00
Southern Car Wheel.....	16.50 @	17.00
Gray Forge.....	9.50 @	9.75
Ohio Softeners.....	14.00 @	14.50

**Bar Iron.**—The demand from jobbers continues heavy and mills are enabled to keep running full turn. Car shops are getting some business and are ordering more freely in consequence. The local jobbing trade is excellent, and prices are well maintained as follows: Lots from mill, 1.15¢ @ 1.20¢. Jobbers quote 1.35¢ for small lots from store.

**Barb Wire.**—There is nothing of interest to note in this department. Trade is dull but will start up again about September 1. Prices are well maintained as follows: Painted, in carload lots, \$1.85 @ \$1.90; Galvanized, 40¢ per hundredweight additional.

**Wire Nails.**—There is very little business doing and prices are unchanged at \$1.20 in carload lots from mill.

**Rails and Track Supplies.**—The demand for all kinds of Track Material is light. Steel Rails are dull at \$26.50, and Old Iron Rails are nominally \$10.50. Track supplies are quoted as follows: Splice Bars, 1.35¢; Spikes, 1.70¢ @ 1.75¢; Bolts, Square Nuts, 2¢; with Hexagon Nuts, 2.10¢; Steel Links and Pins, 1.60¢; Iron, 1.70¢.

**Pig Lead.**—This metal is hard to follow. It is strong one day and weak the next. At this writing the market is 3.27½¢ bid, with sellers asking 3.30¢. The passage of the tariff bill by the House will doubtless result in lower prices for this metal.

**Spelter.**—At 3.20¢ Spelter seems anchored. There is very little being offered and in the absence of sales the price above quoted is largely nominal.

Lee, Chamberlain & Co., St. Louis, Mo., are handling large quantities of Connellsville coke. They have perfected arrangements whereby they are able to make shipments promptly, and advise us their stock is complete for all requirements.

## Birmingham.

BIRMINGHAM, August 13, 1894.

There is not much change to report in the situation. The fact that there has been quite an increase in Pig Iron production last week without any noticeable weakening of prices is encouraging. Stocks are as heretofore decreasing. There is a little more tendency toward accepting larger orders for some time ahead. Prices are firm, and quotations show no change from last week: No. 1 Foundry, \$8.50 @ \$9; No. 2 Foundry and No. 1 Soft, \$8 @ \$8.50; No. 2 Soft, \$7.75 @ \$8. Sloss No. 2 has blown in, making 11 furnaces in blast in this district, and three repairing for immediate resumption. This is out of a total of 23 furnaces and is a good showing for the district, especially as there is no accumulation of stocks. By the by, there have been recently some statements made in *The Iron Age* which seem to have been a little antagonistic to the Southern Iron interests. The statements on Southern Iron being driven out of the Northwest and Chicago markets, and the surprise expressed that furnaces here should be going in blast and preparing to do so, while the "best managed plant" (referring undoubtedly to a plant owned and run by Pennsylvania people) had shut down because there was no money in making Iron in Birmingham, are the ones referred to. These statements had been referred to

by your correspondent in the last two weeks, but he is specially requested to refer to them again. Among furnace men they have unfortunately aroused a strong feeling. They claim they were unjust and indicative of an antagonistic feeling against the Southern Iron industries; that they are not based on facts in so far as the furnaces have no difficulty in selling in the Northwest if they chose to meet the market; that they get better prices elsewhere and have sale for all they make, and for that reason have not entered the Northwest markets to any extent; that there are conditions surrounding the plant mentioned which are not surrounding the other plants and have nothing to do with market conditions, but are conditions of policy which the other plants have avoided. This incident is much regretted, but in justice to our industry it was desired that it should be brought out more clearly.

**Finished Material.**—A curious printer's error occurred last week in giving a list of the names of directors and stockholders as owning the Birmingham Rolling Mill Company, when they should have appeared as owning the Rail Road Compress Company, a new organization just started for compressing cotton. The owners of the rolling mill are Louisville and Birmingham parties. There is no change in Finished Material. Time for starting has not been determined on. Materials are selling at current rates and stocks are getting low, less than 500 tons at one mill. No orders for future delivery are booked, stocks only are sold. Demand for Bar, Plate and Sheet has been especially good. No advance is looked for in prices until Pittsburgh is filled up on orders. Inquiries are light.

**Coal.**—Anticipations of ending of miners' strike were premature. The matter is still under constant discussion among operators and men. Blocton is the stumbling block so far. The market is reported as fair, especially in Texas, Mexico and Southwestern States. The Tennessee Company expect to furnish washed Coke to all their Ensly furnaces. They have five washers in operation.

(By Telegraph.)

Striking miners at Blocton and Pratt mines agreed to the proposition of the Tennessee Coal & Iron Company and go to work at once. All others follow this week. This result is due to the continued efforts of Messrs. Baxter, McCormick and Cadle.

## Metal Market.

**Pig Tin.**—Since the date of our last review prices have been gradually moved upward, and as against 18.70¢ net cash for round lots, prompt or current month delivery, at that time, the quotation is now about 19.30¢, showing a clear advance of 60¢ per lb. There has been some speculation in the mean time. Official records show about 250 tons. Quite as much is understood to have been done outside. Purchases for jobbing and consumptive account have not varied much from ordinary lines, however, and the rise, happening as it does in the face of adverse statistical position, has peculiarities indicating that the Continental syndicate or the old leaders are exercising their power of manipulation. Certain it is that New York has danced to some foreign piping in the matter of

making prices and conducting speculative deals. Indications are that some interest on the other side of the Atlantic is playing a bold game.

**Copper.**—The Copper market has a ragged sort of appearance, the result of rumors of another attempt to form one of those peculiar international combinations for mutual benefit and free selling while negotiations in that line were pending. It is no secret that influential sellers have taken ordinary orders for Lake Superior Ingot at 9¢, and that they are on the alert for more business at the same price. On the authority of James Lewis & Sons, Liverpool, it is also remarkable, or, at the least, suggestive, that Lake Superior Copper was offered in the English market a short time ago at prices equivalent to 8¼¢ per lb, United States currency. There is good reason to believe that enough American Copper to have a weighty influence remains on the European market. Over 195 000,000 pounds of ingots and bars, besides 24,000 tons of matte were shipped thence from this country during the year ending July 1, 1894. Despite these heavy shipments an ample supply remains here and there is at least a probability that orders for round lots would be taken here at under 9¢. The popular quotations on electrolytic are 8½¢ @ 8¾¢, and for common casting stock 8½¢ @ 8¾¢ is named. In some quarters it is claimed that liberal sales have been made at or about those figures. On that point, however, doubts are expressed by people who keep a close watch upon the market.

**Pig Lead.**—At one time during the week under review the price for common domestic went as high as 3.70¢ for prompt delivery, owing to small stock available. Subsequent arrivals and offerings from the West brought the spot price down to 3.55¢ for carload lots, and that seems to be top value at the present time. The passage of the Senate tariff bill prompted speculators to offer distant future deliveries at from 3.45¢ down to 3.35¢, but little business was done, and buyers acted very indifferently.

**Spelter.**—Merely routine business, and little of it, has been effected in this market. The offering has not increased perceptibly and the demand has been hardly of average volume. Still enough business goes through to keep prices quite steady on the basis of 3.45¢ here for ordinary Western brands. Choice brands command about the usual premium.

**Antimony.**—Sales have been slow, and prices are easy, with sellers at 10¢ for Cookson's and 8¼¢ for Hallett's, on the spot.

**Nickel.**—There are sellers at 40¢ and bids on round lots are not much above 35¢. The demand is only fair.

**Tin Plate.**—Tariff legislation has checked business, but more buying interest has developed since the passage of the Senate bill, and sellers' prices are about 5¢ @ 7½¢ per box higher on futures. Spot goods are also stiffer, but purchases can be made at about the following prices: Charcoal, Melyn grade, IC, \$6; do., Melyn grade, Crosses, \$7.75; do., Allaway grade, IC, \$5.40; do., Allaway grade, Crosses, \$6.45; do., Grange grade, IC, \$5.50; do., Grange grade, Crosses, \$6.60; do., Terne, M.F., 14 x 20, \$7.25; do., M.F., 20 x 28, \$14.50; do., Worcester, 14 x 20, \$5.70; do., 20 x 28, \$11; Alyn grade, 14 x 20, \$5.15; do., 20 x 28, \$10 @ \$10.25; D. R. D grade, 14 x 20, \$4.90; do., 20 x 28

\$9.70. IC Coke: Penlan grade, \$5; do., J. B. grade, 14 x 20, full weight, \$5.15; do., 100 lb, \$4.75; do., 95 lb, \$4.62½; do., 90 lb, \$4.55. IC Bessemer Steel, Coke finish: 14 x 20, full weight, \$5.12½; do., 100 lb, \$4.70 @ \$4.75; do., 95 lb, \$4.60; do., 90 lb, \$4.50. IC Bessemer Steel, Coke finish, sq., \$5.30. IC Siemens Steel, Coke finish, sq., \$5.45. Wasters: S. T. P. grade, 14 x 20, \$4.60; do., S. T. P. grade, 20 x 28, \$9; do., Albearne grade, 14 x 20, \$4.90.

## New York.

Office of *The Iron Age*, 96-102 Reade street, {  
New York, August 15, 1894. }

**American Pig.**—As yet there are no indications in this market of a revival in the demand, and sellers remain sufficiently numerous to keep values down. There has been some talk of advancing prices on Lehigh brands, but nothing has come of the movement. We quote standard brands \$12.50 @ \$13 for No. 1; \$11 @ \$12 for No. 2, at tide-water. Southern Iron, same delivery, \$11.50 @ \$12.25 for No. 1; \$10.50 @ \$11 for No. 2; \$10 @ \$10.25 for No. 3; \$10.25 @ \$10.75 for No. 2 Soft, and \$10.50 @ \$11 for No. 1 Soft. Foundry No. 4 (Foundry Forge) is \$9.75 @ \$10.25.

**Cast Iron Pipe.**—Contracts are to be closed to-day for about 2100 tons of Pipe for Jamaica, and 1200 tons for Newtown, Long Island.

**Spiegeleisen and Ferromanganese.**—The new rate of duty, which is lower by \$2.78 than the present rate, gives foreign makers that amount of advantage. On the basis of recent offers this would lower the price to about \$20.50 @ \$20.75. It remains to be seen whether foreign makers will be content to give away the whole of it. In Ferromanganese the largest recent transaction in foreign was for a lot of 300 tons, to go to the Lehigh Valley, the sale having some special features. It was at private terms, but we understand gave the buyer the benefit of any lowering of duty. Based on recent nominal quotations, Ferromanganese could be laid down at say \$50 ¢ ton, under the new rate of duty. It remains to be seen whether the leading Pittsburgh maker will lower prices for Eastern territory sufficiently to retain his hold on the whole business.

**Billets and Rods.**—The market for Domestic in this territory is dull at \$19.25 @ \$19.50, tidewater, for Billets, and \$26.75 @ \$27 for Wire Rods. The new rates of duty have no effect.

**Steel Rails.**—We note sales of over 2000 tons of Light Rails, which is relatively a large quantity. Nothing is doing in Standard Sections, which are \$24.80 at tidewater. Light Rails are \$22 @ \$24, according to section. Shipments of Standard Rails up to August 1 were 380,000, while the sales aggregated about 530,000 tons.

**Track Material.**—We quote as follows for small lots: Spikes, 1.50¢ @ 1.70¢; Fish Plates, 1.20¢ @ 1.40¢; Track Bolts, Square Nuts, 2¢ @ 2.10¢, and Hexagon Nuts, 2.10¢ @ 2.30¢, delivered.

**Manufactured Iron and Steel.**—A Pittsburgh mill has taken the contracts for the material for the Presbyterian Home, to be built by Post & McCord, and for the Lexington Power House, to be built by Cornell, the whole involving about 4000 tons of Steel. The same mill is reported to have taken the

Buffalo order, amounting to about 1200 tons. There are a few more contracts of some magnitude coming up and some little work is to be let in Boston. We quote: Beams up to 15-inch, 1.40¢ @ 1.50¢ for round lots; Angles, 1.30¢ @ 1.35¢; Universal Mill Plates, 1.25¢ @ 1.35¢; Tees, 1.50¢ @ 1.60¢; Channels, 1.40¢ @ 1.50¢, on dock. Steel Plates are 1.25¢ @ 1.40¢ for Tank; 1.40¢ @ 1.50¢ for Shell; 1.60¢ @ 1.65¢ for Flange, and 1.75¢ @ 2¢ for Fire Box, and 2¢ @ 2.25¢ for Locomotive Fire Box, on dock; Refined Bars are 1.20¢ @ 1.9¢, on dock, and Common 1.10¢ @ 1.20¢; Soft Steel Bars are 1.20¢ @ 1.30¢; Scrap Axles are quotable at 1.35¢ @ 1.50¢, delivered; Steel Axles, 1.35¢ @ 1.50¢, and Links and Pins, 1.40¢ @ 1.60¢; Steel Hoops, 1.40¢ @ 1.50¢, delivered; Cotton Ties, 70¢ @ 75¢ ¢ 45-lb bundle, tidewater; Machinery Steel, 1.20¢ @ 1.40¢; Toe Calk, 1.75¢ @ 1.90¢, and Sleigh Shoe, 1.60¢ @ 1.75¢, delivered.

## Financial.

Early in the week under review the financial situation was under the domination of the delay over the tariff bill. The announcement of the acceptance by the House of the Senate measure brought about a brief flurry, since which time the markets have quieted down. On Monday there was quite an advance in sugar and whisky, and the granger stocks, notably Burlington and St. Paul, experienced an advance, which was partly due to coverings of shorts. Still the market has broadened and it is certain that there has been better buying lately of railroad bonds for investment.

So far as the railroad interests go the crop situation gives rise to grave apprehension, in spite of the fact that recent rains have somewhat improved matters. There will be less grain to haul, since the corn crop is reduced to 1,500,000,000 bushels, while the wheat crop is estimated at less than 400,000,000 bushels. To some extent this must reduce the purchasing power of the afflicted sections and thus adversely influence general business. On the other hand, the South is reported to be in particularly good condition, both as to its cotton and its cereal crops. Texas is referred to as specially favored in this regard.

The weekly statement of the Associated Banks showed a decrease in reserve held above the legal requirements of \$2,050,850, the surplus now standing at \$67,002,850. A further expansion of \$2,318,200 in the loans was a feature of the statement which was received with much satisfaction as indicating greater activity of general business. There was a singular increase of \$505,800 in specie held, while legal tenders decreased \$2,686,500, making the net cash loss for the week just about what was expected from the known interior movement, the operations at the Sub-Treasury and the exports of gold. Deposits decreased \$519,400, and circulation decreased \$27,200.

Time money shows no change from the features lately prevalent. A better demand is the most noteworthy fact. Rates 1½ % for 30 days, 2 % for 60 days, 2½ % for 90 days, 3 % for 4 months, 3½ % for 5 months, 3½ % @ 4 % for longer periods.

Mercantile paper is coming into the market more freely than of late, and sales are made in town and out of all material that is unquestioned in standing. Rates 3 % @ 3½ % for indorsed

bills receivable, 3½ % @ 4½ % for high grade single names, and 4½ % @ 5 % for others.

Call money in London ½ %; short bills ½ % @ ¾ %; three-months' ¾ % @ 1 %.

The market for sterling opened irregular and the posted rates were lower at \$4.87 ¼ @ \$4.88 ½. The rates for actual business were as follows: Sixty days, \$4.86½; demand, \$4.87½; cables, \$4.87½. Commercial bills were \$4.85½. The supply of grain bills was few.

Treasury officials report numerous inquiries for small bills for shipment West. Yesterday \$78,000 in gold was received at the Sub-Treasury here in exchange for small bills. Arrangements have been made for the transfer of funds through the Treasury from this city to New Orleans by telegraph on payment of gold here for which the Sub-Treasury in New Orleans will pay out small bills. It is expected that these and other amendments in connection with the movement of currency will increase the Treasury gold by fully \$20,000,000 while the crop movements are in progress.

## British Metal Market.

[Special Cable Dispatch to *The Iron Age*.]

LONDON, WEDNESDAY, August 15, 1894.

There has been a livelier movement in Pig Tin and prices have advanced about £2. 10/ during the week. The advance was due chiefly to purchases on speculation by the larger speculative holders and buying for American account. The selling movement was free on Monday and caused a sharp decline, futures having been freely offered, but the market reacted Tuesday on active speculative buying in the face of large Straits shipments. This carried prices up to £68. 15/ for prompts and £69. 5/ for three months' futures. The market to-day was strong with late dealings at £69. 5/ @ £69. 7/6, for prompts and £69. 15/ for futures.

Copper has been more active and prices have advanced to the extent of 15/, chiefly under the influence of reported better advices from America and improved buying by consumers. Until Tuesday the speculative and other demand was freely met, but outside interest then became larger, in which both cash and forwards shared. Orders to the extent of several thousand tons have been executed the past few days. This movement carried prices for Merchant Bars to £39. 7/6 for prompt and £39. 15/ for three months' futures. To day the market is still firmer, with £39. 10/ quoted for Merchant Bar prompts, £39. 15/ @ £39. 17/6 for futures and £41. 10/ @ £41. 15/ for best selected English.

Tin Plate has been in more demand, but actual business was limited and prices have been irregular. Bessemer Cokes sold as low as 9/9, Ternes at 18/6 for double boxes and ordinary Charcoals at 10/6. Coke wasters are in demand at 8/, f.o.b. Swansea. To-day's prices at Swansea are as follows:

Bessemer Cokes, 14 x 20.....	9/9 @ 10/
Siemens Cokes, 14 x 20.....	10 @ 10/3
Ternes, double box.....	18/6 @ 19/
Charcoals.....	10/6 @ 13/

Black Plate is dull at £7. 15/ for Bessemer.

Pig Lead is quoted firmer at £9. 12/6 for soft Spanish, with only moderate dealings.

Spelter is rather dull at £15. 7/6 @ £15. 10/ for ordinary Silesian.

## Washington News.

(From our Special Correspondent.)

WASHINGTON, D. C., August 14, 1894.

A group of naval experts meeting by accident in one of the Bureau offices at the Navy Department, during a discussion of the scientific and tactical lessons in naval warfare to be gathered from the war in the distant Orient, expressed some very clear and conclusive views.

A consensus of opinion made one point conspicuous, which was that the war between Japan and China would contribute practically nothing in a scientific sense to the art of modern naval war, either in an offensive or defensive sense, as regards the working of modern ships with their heavy armaments in guns and armor and powerful machinery.

The fighting thus far, they claim, has been the merest child's play, and although Japan appears to have gotten the upper hand thus far on the water, the merits of the warlike appliances in their hands have not been tested in a manner which might form the basis of scientific opinion or future application.

In a tactical point of view the officers referred to agreed that the imperative necessity of a navy by a seaboard nation has already been demonstrated. The successes, such as they have been, already gained by the Japanese have practically dispossessed China of the waters off her own shores.

The legislators who have made naval subjects a matter of much study now concede that it was a mistake for the present session of Congress not to authorize at least one or two additional battle ships.

The hole stove in the steel sides of the "Chicago" by an ordinary merchant steamer has been the subject of an official report and considerable discussion in a technical sense. Commodore Melville, among others, claims that no war vessel, no matter how constructed for offensive naval service, can withstand a punching by even a wooden craft of any size. He remarked: "People not familiar with such subjects have an idea that a vessel of war can resist the contact of another floating body like an ordinary steamer. They set up a great amount of criticism when such things have happened. In action the chief object is to keep the enemy off if on the aggressive and do the ramming yourself if that is the object. The most formidable craft afloat is the ram, a vessel with powerful engines, capable of high speed, and a deck and hull capable of resisting the enemy's heaviest shot, with simply a tower, but no guns for offensive work. Such a vessel would destroy a fleet.

"Admiral Ammen was on the right tack when he designed his ram. This craft will soon be finished. We should build a large fleet of these craft so as to have one or more to co-operate with our shore batteries and ships in every seaport in the United States. As a means of aggressive coast defense they are more

formidable than the heaviest battle ships. Engines like the 'Columbia' or 'Minneapolis' in such a craft would make her the terror of a whole hostile fleet."

The charges of May concerning the alleged irregularities in the mechanical finish of the Carpenter armor piercing projectiles has turned out a complete farce, as indicated in *The Iron Age* last week. May was given every facility for turning up a defective projectile. He caused an immense amount of trouble, annoyance and labor, until his performances began to assume such a scope of ludicrousness that the Secretary, on the recommendation of Commodore Sampson, ordered the investigation stopped.

The result, however, has been a flattering vindication of the output of the Carpenter plant. Of the scores of projectiles tested on lathes with calipers and by other methods not a single one was found outside the minute allowance of difference and the majority were absolutely perfect.

Commodore Sampson has been throwing some technical light upon the Congressional Investigating Committee's labors on the Carnegie alleged irregularities. He did not favor a plate hardened by piecemeal, although it had been done in the case of the thicker plates. He did not favor the idea that oil tempering was not necessary for nickel steel. He believed in that treatment for all kinds of plates. Plates differing 20,000 pounds in tensile strength in different parts he did not regard satisfactory or reliable. The test of the two halves of plate 619, from the Carnegie works, he was of the opinion, demonstrated that they were not both from the same plate. The Commodore will give the testimony a careful review and will make such further observations as the information conveyed may seem to demand. This will greatly facilitate the efforts of the committee to reach a report of technical as well as administrative value.

The Erie road has issued a rail and lake tariff, making the rate on iron and steel from Pittsburgh to Chicago 15 cents per hundred pounds, to Detroit 11 cents, to Duluth 16 cents, Joliet 16 cents and St. Paul 16 cents. It went into effect on August 13.

Secretary Lamont has authorized the Pennsylvania Railroad to build a solid bridge across the Raritan Canal at New Brunswick, N. J., in place of the draw bridge which is now in use.

The new roofing company at Youngstown is an incorporated company, under the name of the Youngstown Iron & Steel Roofing Company, and the works are located just east of the Car Company's works. They will make all classes of iron and steel roofing, corrugated sheets, V-shaped siding, &c.; in fact anything that any concern of such a nature furnishes. The machinery and appliances are all entirely new. The matter of construction is being pushed rapidly, and they will shortly be in position to supply the trade anything in that line. The officers of the company are: L. E. Cochran, president; G. M. McKelvey, vice-president; Mason Evans, treasurer; C. S. Few, secretary, and Jno. O. Pew, general manager.

The National Supply Company of Pittsburgh last week elected the following directors: C. W. Pratt, H. M. Wilson, H. W. Bishop, E. C. Converse, Horace Crosby. H. M. Wilson was elected president and H. W. Crosby treasurer and secretary.

## To Australia in Twelve Hours.

I hear, says a writer in the *Pall Mall Gazette* of London, that a respectable North country merchant has invented a means for getting to Australia in 12 hours, a means so simple that I fancy it must have occurred to a good many people already. Every one knows that the world spins round on its axis once in 24 hours. Whence it is clear that if you hang yourself up somewhere and wait, in 12 hours Australia will be under your feet, and you will only have to step down in order to be comfortably there. The good merchant proposes to send passengers up in a well-appointed balloon, where they will wait until Australia comes round. It is an admirable scheme.

## Testimony of Finger Prints.

When a finger, or a finger print, is closely examined under a lens of only moderate power, it is seen to abound in minute peculiarities. These are caused, says *All the Year Round*, by the branchings of some of the ridges; the sudden appearance of new ones; the formation of rings, or ovals, like eyelets, and the abrupt stoppage of ridges without any apparent cause.

It is in these countless little peculiarities even more than in the general character of the pattern that the value of finger prints as proof of identity lies. For these appearances, however minute, do not change in the smallest particular during life. A pattern may be traced on the fingers of the babe when born; it will be found the same on those fingers when he has grown to manhood, and may be imprinted from the fingers without change in the smallest point, though a hundred years should intervene between birth and death.

The pattern grows together with the finger. Its proportions vary with fatness or leanness. They may be further affected by wear, gout or age. But such changes appear in the pattern as a whole; never in the form or correlation of its constituent parts. The pattern may become altered in length or breadth by hard wear of a peculiar kind, but the number of ridges that concur in forming the pattern, their embanchments, their archings, loops and other characteristics, are not subject to change. They are indestructible as the finger.

## A New Telephone.

William Marshall of New York has prepared a curiosity for the electricians. He began, says a Boston journal, by taking up an ordinary book and placing in the leaves several slips of tin foil 1½ inches wide and 4 inches long. Then he attached a couple of fine wires, closed the book and carried the other end of the wires to another room, where they were attached to the transmitter of a telephone. Then a conversation began, with Mr. Marshall in one room and one of the persons in the room where the book lay. Each word that came from the book could be heard in every corner of the room. It is said the new principle is the direct opposite of the Bell principle. The latter is the magneto receiver; the new one electrostatic. As described by Mr. Marshall, the invention consists essentially of a telephone system, comprising speaking condensers and an induction coil at each station, each induction coil having two secondary wires and a primary wire, the opposite ends of each secondary wire being connected with the opposite poles of the speaking condensers.

# HARDWARE.

## Condition of Trade.

**T**HE PASSAGE of the tariff bill, which it is generally assumed will become a law, is, of course, the chief subject of interest which has come up during the week, but even this creates no excitement, as there are few lines of Hardware in which the foreign manufacturer can hope to compete successfully with American manufacturers in the home market at present prices. The dullness of trade for more than a year and the agitation of tariff changes have led to very low prices and the discounting of the effect of the reduction of duties. It is to be hoped that the removal of uncertainty regarding the tariff, particularly in view of the very low prices now prevailing for goods, will lead to more liberality in orders and an improvement in business generally. There seems little chance that the merchant will be compelled to mark down goods bought at present prices.

### Chicago.

(By Telegraph.)

Jobbers report a better trade in Shelf Hardware than before the strike. Business has thus more than recovered its ground. Orders are steadily growing, not only more numerous but larger. Inquiries are being received from many country merchants as to prices on quantities, which indicate the growth of a sentiment in favor of laying in stocks. Crop reports continue of a mixed character, some localities suffering from absolute failure, while others are in good shape. Taking the good with the bad, the outlook for the trade from this vicinity is not seriously discouraging. While the fall trade, which is beginning, may not be up to the full average, it is now expected to be considerably better than was feared in July. Tin Plate and Tinners' Stock generally are in excellent demand and Builders' Hardware is in better request. Staple goods are beginning to move also. Collections are not up to what they were in June, but this is ascribed to the prevalence of harvest in the past two or three weeks, which has kept farmers in their fields.

### St. Louis.

(By Telegraph.)

The jobbing Hardware houses report a quiet week, which, however, is characteristic of this season. Orders from

the West and Northwest show some falling off, which is more than made up by the increased Southern trade. Texas expects her crops to be better than ever before, and the merchants of that State are ordering quite freely. Prices are not being shaded, but are in nearly all lines well maintained. The passage of the tariff bill, while perhaps not satisfactory to the party who have to father it, will prove more satisfactory to the trade at large, as it will relieve the feeling of uncertainty which has tended to depress business for so many months. The hope is expressed that a good fall business will now put in its appearance and the chances are decidedly favorable for this hope to be realized. Jobbers are carrying light stocks and retailers continue the policy of ordering from day to day. The Shovel situation is unchanged. Although the cheaper grade of Shovels may be offered to the trade at lower prices than at present prevailing, the better grade of Shovels will likely be advanced.

### Cleveland.

**THE W. BINGHAM COMPANY.**—There is no doubt but that the general situation is improving, although nothing has been done in our national affairs to cause an improvement, but people have naturally become disgusted with waiting for something to turn up and are growing more and more indifferent as to what Congress may or may not do. Stocks have become so depleted that in order to do business at all goods must be bought. Travelers generally have returned from their vacations and are again on the road. Their orders are fairly numerous and for the most part for better quantities than has been the case for some time past. Prices as a rule are very low and have a firmer tendency, with the possible exception of the staples of Wire and Nails. Orders for fall goods are being placed with much more freedom than was the case a year ago. Collections, while fair, are not so good as they were a month ago.

### Portland, Oregon.

**CORBETT, FAILING & ROBERTSON.**—The business of the month of July was a marked improvement over any previous month of the current year.

Collections are better, although not yet up to the mark, but with an abundant harvest and a disposition on the part of producers to realize as soon as they can get their wheat into market, it is possible that the fall will be a good collection season, and that the end of the year will find our rural population in much better condition financially than they have been for several years.

This does not mean that flush times have returned with us more than in any other section, but the enforced

economy of the past twelve months and the conviction on the part of the farmers that the only safe policy is to make their crop pay indebtedness as quickly as possible are doing their perfect work.

For many years our friends in the interior have clung to the idea of "holding for a price," and although it generally resulted in their taking a less price, the experience of a past year made no change in their conduct in the next. They see things differently now, and will, it is to be hoped, act according to their new light.

Stocks are still light, but there are goods enough *en route* to supply all the needs of the trade.

The Oregon Railway & Navigation Company's line up the Columbia River, which was badly damaged by the flood, has been repaired, and traffic now goes on as usual. The lease of the O. R. & N. to the Union Pacific, under which the road has been operated for some years, has been abrogated, both roads being under receivership, and the O. R. & N. is now under separate management. Originating as it does in Portland, and covering a large territory by its trackage, its interest appears to lie in the building up of local traffic rather than in affording track facilities to the transcontinental lines for through freight. In this view of the case it would seem that the interests of Portland as a distributing center and those of the road must be identical. A statement is current "on the street" that one of the belligerents on the other side of the Pacific Ocean has placed a heavy order for flour in our market. That it will, if true, have the effect of advancing the price of wheat locally, is hardly probable, but "every little helps."

### Louisville.

**W. B. BELKNAP & CO.**—Business shows improvement all along the line. Orders are more numerous, more varied and of better proportion than for some time past. The daily wear and tear of a fairly prosperous large country are no small items in themselves, and though prices of iron, steel and Hardware generally are extremely low, we fancy we must get used to their being so. A Kansas simoon does not tell on barbed wire, for example, as it does on corn. The crop prospects in the South are still good and the crops more diversified than ever before. So that with no epidemic to contend with, or any blight worse than that of the making of the annual election blatherskite, there is no reason why that favored section should not show up well this fall. The attitude of the South in the late rebellion, we mean the one in the Northwest in 1894, which called for the intervention of the national authorities, is such as to give investors confidence in the general loyalty of that section over perhaps any other of the country, and a belief in its future welfare and business possibilities. This is reflected in the recent advance of L. & N. stock. Seven points is no mean advance to score in a few days.

The temporizing policy adopted by the State authorities toward the would-be revolutionists and anarchists is still bearing fruit in the destruction of property and life. Arson is of frequent occurrence and the derailment of passenger trains such as lately experienced in the Nebraska horror is an evidence of what that spirit will do if unpunished. We do not hear of any unusual efforts being made by the authorities to apprehend the fiends guilty of such revolting crimes. We think if the city or State authorities would offer unusual rewards for the arrest and conviction of these people bent on destruction and nothing else, they could soon put a stop to it and the country would begin to have confidence in values once again and that means new enterprises and prosperity. It means abundant employment, and that means good wages. The element of safety to person and property must be supplied first before we can take the proper interest in money standard or the tariff.

#### Baltimore.

CARLIN & FULTON.—Though there has been a fair demand for goods during the present month, it has so far hardly equaled that of July, which was greatly stimulated by the low rates of freight, which have now advanced considerably.

By the time this letter reaches you the fate of the tariff will no doubt have been decided, though we fear the long delay has already injured very greatly the business of the coming fall, and we can expect no immediate revival, no matter whether it be passed or rejected.

Goods already in bond can easily be brought in in time for the season's sales, but foreign orders, the manufacture of which depended entirely upon a reduced tariff, will in many cases be too late for this year's trade.

It is a matter of regret that the Bailey Bankrupt bill should have passed the House of Representatives in the shape it now appears before the Senate Judiciary Committee, as it is a bill entirely in the interest of the debtor, and takes from the creditor what small advantage he now may have in the federal courts.

This is a matter which should be taken up by the boards of trade in every city, and arguments presented at once to have the bill defeated.

There is but little to speak of in regard to prices, though we think that any reductions in costs, the result of new duties, as far as they affect goods of American manufacture have been already discounted.

#### Philadelphia.

SUPPLEE HARDWARE COMPANY.—Little thought we when our last communication was forwarded *The Iron Age* that, when again called upon for a few words, one of our troubles would be the unsettled tariff question; still, as we forward this, matters in Washington remain unsettled, both branches of our Congress are apparently determined to assert their own rights, and, while we are led to believe from latest telegraphic news that the subject will be settled and disposed of ere another week rolls by, no one will feel disposed to give that sigh of relief that has been pent up for months until word has been wired, "Tariff bill passed." All hopes for a general revival of business seem at present centered on this one point. Certainly, if nothing else, hope

and belief should give a stimulus to trade.

During the two weeks just passed we cannot claim any improvement in trade. Notwithstanding the increased rates of freight since August 1, in the Southern territory, trade from that district continues good. While in our immediate section the purchases are confined to actual necessities, wants in many instances seem to receive no attention. In the western part of our State business is depressed, on account of the drought, reports showing everything dry and parched.

Referring to recent changes in prices we refer to the one of most importance—the decline in price of Screws. The association has been endeavoring, with rather poor success, to hold the prices up on this line expiring by limitation on June 30. While there are from all reports prospects of a continuation of an association, it seems to be the belief that it must be on different lines from the one of recent death. The decline in some respects seems to be aimed against several of the newer competitors who are manufacturers only of the flat head iron and flat head brass Screws. While present quotations are made for August delivery only we see no chance of any advance taking place with the demand for this line that there is at this time.

A slight weakening in price over figures quoted two weeks since is noted on both Wire Nails and Barb Wire, with more business in the former line, Wire sales, however, being sluggish.

In general Shelf Hardware values remain as for a month and more past, which we must believe are on a very small margin of profit.

While collections in some sections are poor, taken as a whole no complaints can be made.

#### San Francisco.

MILLER, SLOSS & SCOTT.—Trade has about resumed its normal condition since the strike, and a fair volume of business is being done. The wheat crop is about harvested, and is coming into the warehouses ready for shipment, and ships are now getting ready to carry the grain to Europe.

The war just commencing between China and Japan will benefit California, as large quantities of flour, &c., will necessarily be required. All this helps to stimulate trade, and the present outlook for some months is better than was anticipated a few weeks ago. As a whole, trade is fair at this time of the year, and collections are coming in as well as could be expected.

Prices are still ruling low and stocks are light, particularly in Heavy Hardware, such as Nails, Pipe and Wire.

#### Omaha.

LEE-CLARKE-ANDRESEN HARDWARE COMPANY.—The interim from our last report may be characterized as very unsatisfactory and discouraging. The long period of dry weather and entire absence of rain have worked serious and irredeemable damage to the corn crops of Nebraska and Iowa. Reports from all sections of the territory tributary to this market contain virtually the same statement of facts, and in consequence business men generally are very much discouraged. The number of orders received is fair, but the volume is very light, and confined exclusively to immediate wants. Conservative estimates place the corn crop at one-half, and the only encouraging feature

is the fact that if we are to have only a half crop, the price will equal in cash fully as much as a full crop.

#### New Orleans.

A. BALDWIN & Co.—A continued steady improvement in business is going on in this section and orders for the past two weeks are much more plentiful than we have seen them for some months past. If they would settle the tariff question there would be a much more permanent tone to the improvement, and we would enjoy a very large fall trade. Notwithstanding the drawbacks, we must say business at present has exceeded our expectations and commences earlier than we anticipated.

#### St. Paul.

FARWELL, OZMUN, KIRK & Co.—Since the middle of July, at which date the strike was substantially broken in the Northwest, trade has been fairly active and part of the trade that was lost during the strike has been regained, but a considerable part was lost to stay. It is to be hoped that the lessons of this disastrous strike will not be lost on the working classes, and especially on railroad employees. The intelligent men among them see that the sentiment of the great body of the people is against such measures as they have resorted to and which as a rule attend all strikes. And one of the most important lessons from this strike is that the Government will use its strong arm to enforce the laws and protect, not only the running of the mails, but also the commerce between the States. To have gained the latter point is really worth the tremendous price which the country has paid for this strike. Instead of waiting, as we have been accustomed to take as granted must be done, in the case of a railroad mob and riot, for the county sheriff first to exhaust his resources and then, in case of failure, to call on the governor of the State, and, in the event of his failure to restore order, then the Federal Government to come to the rescue, we have now discovered that out of the interstate commerce law the country has gained a point that probably never occurred to the makers of the law or its advocates, and hereafter strikers and rioters are to know that the Government will not permit them to interfere with the carrying of freight going or coming from one State to another. Mr. Debs and his fellow agitators have largely lost their vocation to the great relief and benefit of the country, and we all breathe freer and are more hopeful of the future.

#### Notes on Prices.

Wire Nails.—The increase in demand previously noted continues and stocks are small and growing less, but on the other hand factories are preparing to start up again. Quotations are still on the basis \$1.10 for carload lots, and not particularly firm. The New York price for small lots from store is \$1.30 to \$1.35.

Chicago, by Telegraph.—The inquiry is growing, but there is no other indication that the regular fall trade has opened. Factories are now getting into operation gradually, and the situation is growing interesting. Manufacturers

are endeavoring to keep up prices, but will only succeed if the demand grows to equal their output. Buyers may hold off too long in attempting to force manufacturers, and will not be able to get all the goods they would like to have in the light of the season. Meanwhile factory shipments are quoted at \$1.15 to \$1.17½, Chicago, with some shading on this price for points further West. Small lots from stock are regularly quoted at \$1.20, with concessions to best trade.

**Cut Nails.**—There is little change to note. The demand continues moderate, stocks are light and prices unchanged. We quote as representing the Eastern market 95 cents to \$1 for carload lots on dock. The store price for Cut Nails in New York is \$1.10 to \$1.15.

*Chicago, by Telegraph.*—Merchants are only supplying their immediate needs, and therefore sales are confined to small lots. Contracting for the fall trade has not yet begun. The local factory, however, manages to keep in operation. Mill shipments are still quoted at 95 cents, Chicago, on 60 cent average, while small lots from store sell at \$1.10 to \$1.15.

**Barb Wire.**—The demand in the East continues small, but more activity is reported in the West. There is no change in prices. The following are the quotations for Four-Point Galvanized, delivered at the points named: Pittsburgh, \$2.05 to \$2.10; Cleveland, \$2.10 to \$2.15; Cincinnati or Allentown, \$2.25 to \$2.30; Chicago or New York, \$2.25 to \$2.30.

*Chicago, by Telegraph.*—More Barb Wire has been sold here the past ten days than for the previous 90. The demand is steadily increasing from day to day. Jobbers are the chief beneficiaries so far, but manufacturers are also beginning to feel the wave of better trade, and look forward to a very large volume of business running through the fall months. Some of them have already made preparations by extensive purchases of raw material, and others are negotiating. The manufacturers of plain Wire are therefore doing a rushing business. Barb Wire is unchanged in price, jobbers quoting small lots from stock at \$2.35 for Galvanized, with 10 cents off for carloads.

**Arcade Cork Extractor.**—This article was described in *The Iron Age* August 2. It is put on the market by the Arcade Mfg. Company, Freeport, Ill., by whom it is sold to the trade at the following net prices, terms, f.o.b., Freeport, 60 days, or 2 per cent. discount for cash in ten days:

Nos.	Per dozen.
5 and 6.....	\$36
7 " 8.....	48
9 " 10.....	84

**Unique Skewer Puller.**—This article was illustrated in our last issue as put on the market by F. W. Hall, 178

Broadway, New York. The Skewer Puller is sold to the trade at the following net prices:

	Per dozen.
No. 1, fancy steel, nickel plated.....	\$1
" 2, plain steel, silver plated.....	2
" 3, solid nickel silver.....	3

**Royal Pound Mill.**—This Mill is being put on the market by the Arcade Mfg. Company, Freeport, Ill. It was illustrated in our issue of the 2d inst. The Mill is sold to the trade at \$4.50 per dozen net, terms, f.o.b. Freeport, 60 days, or 2 per cent. for cash in ten days.

**Counter Borer and Plug Bit.**—The Counter Borer and Plug Bit manufactured by the Samuel C. Tatum Company, Cincinnati, Ohio, of which an illustrated description appeared in our issue of August 9, 1894, is sold at a discount of 25 and 10 per cent. from the following list, the prices being given in combinations:

No. 1. Any one size complete, each....	\$1.25
2. Any two sizes complete.....	1.75
3. Any one size, with Plug Cutter to match.....	1.50
4. Any two sizes with Plug Cutters to match.....	2.25
5. Per full set with 1 Stock and three sizes of Bits (one each 7-16, ½ and 9-16), and three sizes of drills (one each ½, 5-32 and 3-16) to the set.....	2.25
6. Per full set, same as No. 5, but with the three sizes of Plug Cutters to match.....	3.00
7. Extra Bits of any of the three sizes, each.....	.40

**Glass.**—Manufacturers and jobbers report a fair but quiet demand for Glass, with hopes that as the season advances trade will improve. Satisfactory prices for Glass appear rather the exception than the rule. An interesting statement is made that the total product of the season of 1893-94 was 3,189,552 fifty-foot boxes of American Window Glass, against 5,200,000 boxes in the season of 1892-93; also that if the present demand for Glass continues, unimportant though it may be, little available glass will be on hand by September 15. At a recent meeting of window glass manufacturers in Chicago, a wage committee was appointed to meet a like body from the workers. Pittsburgh quotations in car lots are reported as being 85 and 5 per cent. for single, and 85 and 10 per cent. discount for double strength Glass with freight allowance. For smaller quantities 80 and 20 per cent. discount is quoted. Plate glass is quoted at 70 to 70 and 10 per cent. discount, according to size, from Eastern list, and 60 and 20 to 70 and 5 per cent. discount, according to size, from Western list.

The Lakeview Cemetery Association of Bridgeport, Conn., have decided to build a 5½ foot steel fence, with one large center arch gateway and smaller gates on each side. This will require nearly 1500 feet of steel fencing, and they are now looking up the matter of styles, costs, &c.

## Export Notes.

Harry C. Disston has been touring in South America for several months past in the interests of the Saw, File and Tool works of Henry Disston & Sons, Philadelphia. He is taking in all the leading cities on both coasts, and is making a thorough investigation of the business and business conditions of all the various countries in the Southern Hemisphere. From a very voluminous correspondence which our Philadelphia representative has been permitted to read, we gather that the business is largely in the hands of the English, although in some places France and Germany have the precedence, although in all cases the goods are much inferior to those of American manufacture. Prices are, of course, considerably lower, and the great difficulty is to educate the people up to a higher standard of quality. This is one of the chief objects of Mr. Disston's visit, and from the orders gathered from new sources it is probable that he will be successful. Disston's Saws and Files are not by any means unknown to the South American trade, but they have been so long accustomed to using European goods at low prices that it is hard work to get consumers to pay higher prices, even though the goods are very much cheaper, quality considered. Mr. Disston made a similar tour through Mexico some time ago, the results in that case being highly satisfactory, business from that country showing a substantial increase, with every prospect of its being permanent.

Welding Ring of Mailler & Quereau, shipping merchants, 31-35 Stone street, New York, has just returned from a five months' business trip to Australasia. The condition of New Zealand he refers to as very good with regard to commercial and financial standing, while in Tasmania he found it extremely dull. New South Wales showed some signs of improvement. In his opinion the colony of Victoria has apparently passed the worst point. With regard to South Australia he found the situation sound financially, but quiet in a business way. In the latter section they had had very fine rains at the customary time, which would insure good crops. Queensland, with her sugar and mining interests and large cattle exports, in the way of dressed beef and mutton, which is shipped to Europe in refrigerated steamers, is going rapidly ahead. Much butter is also being sent forward and the volume of trade is increasing, supplanting to a large extent the supply heretofore drawn from Denmark for the English market. In Western Australia, which he did not visit, the mining of gold continues to excite much interest.

## The Mississippi and Missouri Valley Hardware Association.

**THE REPORT** published last week of the eleventh annual meeting of this association, at Lake Minnetonka, Minn., was necessarily brief, as it treated only of the opening session. The second session was held on Wednesday morning. It opened with a discussion regarding charges on

### Boxing and Drayage,

in which a leading part was taken by C. W. HACKETT and R. K. COOPER. The fact developed very speedily that entire unanimity prevailed as to the soundness of the policy of charging for the actual cost of boxing and drayage. The average cost of such service was stated to be about 25 cents per order. A house handling, say, 5000 packages per month was subjected to a very heavy tax if it should be obliged to bear such a burden. The dry goods and boot and shoe trades were frequently cited as examples of branches of business in which such charges are not made, but the point was brought forward that goods of such a character are handled in original packages and are not repacked, as is the case with Hardware. If any laxity has heretofore prevailed in this respect there appears to be no doubt that it will not exist in the future.

A paper was then read by W. J. LANDON on the subject of

### Profit Figuring on Daily Sales.

Mr. LANDON prefaced the reading of the paper with the following remarks:

Some weeks ago our worthy president called for a paper from our house on any subject that we might select, to be read at this meeting, and after naming the subject I called to mind the remark said to have been made by the first Napoleon: "Men think the most of what they possess the least." It was profit figuring on daily sales that seemed to be uppermost in our minds just then. We were doing a good deal of figuring and found very little profits.

About the first of the month we make a report to our men on the road, giving the amount of their sales for the previous month, the amount of mail orders received from their territory and the gross profit on the sum total.

This seems to have worked well so far as the house is concerned, but we realize that any plan that succeeds with the salesman must be thoroughly approved by him, and to get an expression on this point I requested one of our men to write a letter to the house on the subject above named; asked him to criticize it as severely as he saw fit and to point out all the objections he could think of.

This letter was more one-sided than I expected, and as it is more interesting than any I could write on this subject, I will substitute it for the one promised.

The letter was as follows:

In the face of the present hard times the prevailing disposition among retail merchants is to confine their wants and purchases within the smallest possible compass. Traveling salesmen find the

hardest possible efforts to sell even the most seasonable goods in advance of actual demand, of very little avail. In view of this fact he is repeatedly astonished beyond measure at the paucity of his monthly sales when reported to him, while the volume of a season's business, compared to that of former like seasons, tends to utterly discourage him from all efforts to do business. Do our employers comprehend the supreme discouragement of daily visiting from two to a dozen dealers while uniformly receiving little or no business from them—and if any, then only in smallest possible quantities and usually with little regard for the regular package quantities of the goods desired?

But sentiment has little place in the dealings of a jobbing house with its employees on the road. It is more a matter of how much goods a man can dispose of and how profitable he can make his business at all times and under all circumstances.

The condition of the times, with its extremely small volume of business, leads a man to contemplate how he can "make both ends meet;" that is, how he can secure a fair compensation for his efforts and at the same time make his house some profit, however insignificant. And I say, verily, that in order to do it he must get a fair profit on the small quantity of goods he is able to sell.

The ordinary basis of contract between the jobber and his salesman inquires merely into the volume of the latter's business, and at all times the salesman endeavors to increase the volume, and often with very little reference to the profit-paying quality of the business secured. This is especially true in times like the present, and is exemplified in the case of the Minnesota salesman who boastfully said a few weeks ago, "I have just completed the sale of two carloads—400,000—loaded Cartridges this season for July delivery, but that is about all I have done." Every jobber realizes the comparative insignificance of this salesman's profits on his business, especially when this line is pushed to the end of taking about all of the business offered in that line on the man's territory.

Despite this, however, it is doubtless the basis of quite an addition to the man's salary under his contract. Were the business in more profitable lines it would make no difference to the salesman under his contract, yet it would be far more welcome to his employers.

This feature is to be set forth as a leading advantage of the profit-sharing form of contract, from all points of view and to all interested. While in the case cited, under existing circumstances, the salesman would probably have secured exactly the same business and have been glad to receive even that; still, the incentive would remain to find more profitable lines even if for less volume. And were it possible for the salesman in question to secure the same profit on one-half the volume of business, it would doubtless have been more satisfactory to his employers, unless they had special reasons for wishing to sell Cartridges under any form of contract.

But there are additional features of the profit-sharing plan of contract of advantage to all concerned, the principal of which I desire to note briefly. Every one connected with the Hardware jobbing business realizes that (and often says ruefully) "Profits are

not what they once were." I need not answer why. It has been amply set forth in valuable articles from the pens of able writers fully conversant with the situation, notably by John S. Brown, of the Southern Hardware Jobbers' Association, in his article "Payment of Salaries to Traveling Salesmen," in language that finds a responsive chord in every heart. All will join in saying that something must be done to stop this interminable paring of profits, else where will it end except in annihilation and utter demoralization? It must be conceded that any system will be hailed with joy that will in any measure put a stop to the practice so persistently employed by salesmen of sacrificing profits in a cutoff price to get business.

This is the bane of the traveler's life; a breeder of contention for all concerned; an estranger of pleasant relations between jobber and retailer; a foolish precedent which will be followed both by the individual salesman and many or all of his competitors. and, withal, is the leading source of the alarming tendency of the times to pare profits on all lines to or beyond the danger point.

We must stop it—but how? A jobbing house must give its salesman latitude in the naming of prices, and it must therefore rest with the salesman himself. All houses have a wide field from which to select their salesmen, and doubtless endeavor to select the best, all things considered, yet the miserable practice goes on. Wherefore, it seems a means must be secured to encourage self-reliance and the use of judgment and discretion in the naming of prices. The boys on the road are bright enough. They certainly possess the necessary requisites. They are alert, active, ambitious fellows. Then employers should make it their direct interest to use these requisites by making them, as it were, partners in the profits they may make in the house. I can conceive of no other effectual method of breaking up this pernicious system and of bringing the boys to a realization of its evils.

I want to illustrate one of the latter. A few years ago a salesman for "the largest house on earth" called on a Dakota retailer at a time when the prospect for obtaining an order was very slim. He was one of the boys who go upon the plan of cutting the first price named out of sight, to create a favorable impression and "get a wedge in." In this case the first price named was on No. 9 Copper Rivets and Burs, and to make it a stunner, 14 cents was the price named. The dealer promptly took 500 pounds. Every one knows what a neat little loss the sale at that time incurred, but the salesman got his "wedge in," and the retailer has still plenty of Copper Rivets that cost him 14 cents. The salesman outdid himself, could not drive his "wedge" any further, and his house in shipping the goods was several dollars the loser. If that loss could be charged against that man's profits account he would hardly repeat or even have committed the folly. Yet he doubtless increased his yearly salary by a percentage on that sale.

The system of paying salesmen premiums for selling specialties—such as an extra 2½ to 5 per cent. on their sales of Cutlery, Fishing Tackle, Guns, &c.—has often a pernicious effect on the salesman's work. It is often nice for the salesman, and he will prosper exceedingly thereby, but chances favor that it is at the expense of his general business. And if the extra profits thus earned could go to swell a profit account, the salesman would thus probably get an equal benefit without narrowing his field of effort to the lines of the premium paying specialties, and

**Signatures of Firms Comprising the Mississippi and Missouri Valley Hardware Association.**

his round-up of business would be in many ways more gratifying to his house and to himself. We want to expand and not contract our efforts.



*J. G. Walther*

President.

There are manifold other advantages to both in a sharing of profits on sales. It inculcates in the salesman watchfulness of his employer's interest, both in securing profitable business personally and of turning mail orders to them. It insures the economical administration of expenses. It enhances his efforts to secure good customers, to make good collections and good sales of all lines. It establishes a unity of interest between house and salesman. It calls out his best business qualities all along the line, by teaching that his reward depends upon his untiring efforts, his ready knowledge of the business, his discretion, his judgment and, above all, his strict integrity. It improves his efficiency and competency, his independence and happiness.

I would have his profits reported monthly, just as sales are reported, and, of course, the overseer can employ just as many of the usual methods to enhance efficiency as he may deem necessary—such as comparison of business of colleagues, of ranking in a determined order, &c.

In conclusion, I, as yet, fail to see any evil features of the system, and am sure that my house can see an improvement in the rate of profit on my business, though not in quantity sold, these dull times.

The reading of this paper was listened to with much interest, and a brisk discussion followed. A paper was then read by R. K. COOPER, on the

#### Compensation of Traveling Salesmen,

as follows :

The good old pioneer days of profit and fair dividends enjoyed by the Western jobbers are rapidly passing and are now enjoyed only in dream life—certainly not in reality—in these days of panics, strikes, tariff tinkering, declining values and large salaries paid to the traveling salesmen.

This brings me to my subject of to-

day—compensation of traveling salesmen. The traveling salesman of the present day is, to a large degree, what his employer makes him—profitable, fairly profitable or unprofitable, irrespective of territory and trade conditions. The small margins and profits and losses are the direct results of the form of his compensation and the manner in which he is controlled or managed. We will appreciate the fact that the present manner of conducting a commercial jobbing business makes the employment of the traveling salesman an absolute necessity; that the jobbing business cannot be successfully carried on without his services; that to a very large degree the success of your business depends upon your traveling salesman. Your first duty is to adopt a basis of compensation that will secure his most conscientious and untiring efforts for your success. Three years ago my house adopted the system of making the traveling salesman an interested party in his profits. The results have been very gratifying and satisfactory in every particular. It has taught him that his compensation depends upon his own individual efforts. It has changed his desire to make large sales regardless of profits or losses to a desire

to sell the most profitable lines at the fairest profits possible, to reputable and thoroughly responsible merchants only. It has given him the ambition to excel in good business methods, causing him to investigate thoroughly the financial condition and business methods, character and habits of his customers. He also keeps his house thoroughly informed regarding trade conditions and general prospects of each section of his territory throughout the year, and in this manner greatly assisting the credit man in giving lines of credit. He is also less anxious to meet any prices he may hear and to investigate more thoroughly the reasons for quotations he may see. It keeps him more closely at work and vacations are now much shorter and less frequent than formerly. In this way a fair and equitable working basis is found, placing the traveler on an equal footing with the house in the matter of profits. In prosperous years he gets the full reward of his efforts. In poor and lean years his compensation is adequate to results. Before we adopted this system we had a number of unprofitable men, now we have none that are not making money for us and for themselves also.

As an additional contribution to this subject, the secretary read a letter from JOHN S. BROWN of Knoxville, Tenn., who had read a paper of similar character before the Richmond meeting of the Southern Hardware Jobbers' Association. MR. BROWN inclosed a copy of his form of contract

with salesmen. MR. COOPER stated that he preferred not to make public the particular plan adopted by his house, but sketched its general outlines only and gave some instances showing how much more the salesmen had earned under the new arrangement than when working on the usual basis. A general discussion followed, in which the question was brought up as to whether losses should not be taken into consideration and salesmen be held liable for a share of such as occurred among their customers. The matter of

#### Credit for Mail Orders

was also thoroughly discussed. Some of the members took the position that a house was entitled to receive some credit for its prestige as well as for its capital invested, and that mail orders should not be used to swell the volume of business actually done by a salesman. Others, however, contended that a salesman should be given full credit for business coming from his territory, whether actually sent in by him or forwarded by the customer direct. Some even go so far as to furnish their salesmen with order blanks to leave with customers to be used in making up mail orders, for which the salesmen receive credit as though they had personally sent in the order. One point was well made, however, that mail orders usually cover goods on which there is the least profit. The goods which are most pushed by salesmen are those in which a fair margin of profit is realized by the house.

The subject of taking

#### Advance Orders

for season goods, to be shipped promptly, but on bills dated forward,



*R. H. Donahue*

Vice-President.

was next brought up and proved to be a matter of deep interest. The general sentiment appeared to be in favor of discontinuing the practice if jobbers

in other sections could be induced to adopt the same policy. Cogent reasons were advanced for making a change in this respect, one of which is that the



*C. A. Knapp*

Treasurer.

work of credit men is frequently embarrassed by the great enlargement of a customer's line of credit when such advance shipments are made of season goods.

#### The New Officers.

The nomination of officers for the ensuing year was announced as the next order of business. President WALTHER appointed as the nominating committee A. L. RUHL, W. J. LANDON, E. M. ANDRESEN and A. M. MARSHALL, who after due deliberation reported the following list:

J. W. CONCHAR, President,  
A. J. HARWI, Vice-President.  
C. A. KNAPP, Treasurer.  
W. S. WRIGHT, Secretary.

#### EXECUTIVE COMMITTEE.

T. G. WALTHER.  
J. F. RICHARDS.  
W. M. GLASS.

After the choice of the Committee on Nominations had been ratified by the association, President CONCHAR was escorted to the chair, and expressed his thanks in a neat speech. The treasurer's report was then read, showing that the finances of the association are in flourishing condition. After a vote of thanks to the retiring officers, an adjournment was taken until evening.

#### The Credit Man.

At the opening session of the convention the following able and interesting paper on this subject was read by A. V. RECTOR, of the Rector & Wilhelmy Company, Omaha, Neb.:

We have been asked to prepare for this meeting of our association something in reference to "the credit man," and while we think a better assignment might have been made, we shall take pleasure in an endeavor to present some thoughts that may perhaps bring

out a discussion which shall be of benefit to us in our business.

I trust we all are sufficient Bible students to be familiar with Paul's injunction to the people at Rome, "Owe no man anything," and perhaps we competing Hardwaremen should take to ourselves the reminder of the sentence quoted, which reads "but love one another." The advice of the apostle was doubtless excellent, but could hardly be said to have prevailed even in his own time, for from the earliest historical records we learn of banks of deposit, discount, mortgages, debts, &c., so that it is doubtless true that ever since one man began to barter with another, some form or other of credit has been in vogue. We believe also that the development of a well defined system of credit has been co-equal and contemporary with an advanced civilization, and it will continue to be so. As our wealth increases our wants increase in geometric proportion, and thus is the exchange of commodities between individuals and nations augmented, and the use of a credit system still further enlarged.

The government of any consequence scarcely exists that is not largely in debt. Municipal corporations use their credit to make public improvements, and in fact, sometimes to pay expense of administration. We are familiar with the statement that England is the great credit nation, and yet we know her Government debt is large. Hon. Wm. E. Gladstone, than whom perhaps there does not live to-day a more honored and honorable Englishman, once made the assertion in an address on the subject of "Bimetallism" that England receives annually for interest alone on obligations due her people from outside Great Britain more than \$600,000,000 per annum, or approximately \$2,000,000 per day. These figures are almost beyond comprehension, but they should carry to our minds something of the magnitude of the credit business of the world. Business men, firms and corporations borrow money, or use their credit, with which to do business, and so the commercial fabric is made up of a vast number of transactions "on credit."

Admitting the necessity then for the use of more or less credit in the transaction of his business, the judicious merchant, in extending credit to his customers for goods sold, should endeavor that those favors go only to individuals and firms who are thoroughly entitled to and will not abuse such favors. Every wholesale business of any considerable magnitude has, or should have, its well organized credit department in charge of some one competent man to whom all questions pertaining to the extension of credit should be referred. He should be perfectly familiar, at least so far as possible, with the financial circumstances, business methods and habits of every customer of the house asking credit. Every aid should be given him toward obtaining the fullest information about his debt-

ors. The house should be subscribers to the leading commercial agencies. Their reports are far from correct in many cases, but the system, built up through many years of effort and experience, has been greatly improved, and is still improving. Other sources of information should be the opinions of bankers knowing of the affairs of the debtor, but not the information from his own banker, for the reason that in most cases of default or failure he is a large creditor, and nearly always a preferred one. Who has ever known of an unfavorable report from a banker on his own customer? Stamped and addressed envelopes always accompany these requests for information, and while no pay is expected for them, we believe it to be policy to provide and include some inexpensive and appreciated personal souvenir along with the inquiry. Traveling men's opinions are of value, but they should not be relied upon too strongly. They are usually personal friends of the party asking larger credit favors, and their judgment of a credit risk for this reason is not apt to be unprejudiced. Like bankers, however, their opinions should be drawn out by a limited number of pointed questions on a suitable sheet, with blank space for reply. We say limited, for if too lengthy the object sought will be defeated. In a recent article on this subject, to which our attention has been called, the writer gives a list of more than 70 questions expected to be answered by those to whom referred in reference to his debtor. This is extreme, and would defeat the object sought. In our opinion the most reliable information is that gleaned from our own experience or that of other contemporary merchants with the debtor. There ought to be the heartiest co-operation between all the merchants, of whom the debtor is likely to be asking credit favors, with reference to his business methods and lines of credit asked. We understand in the coffin and furniture manufacturing trade they have a sys-



*A. V. Rector*

Secretary.

tem by which, if a man does not pay his bills promptly, or for any reason becomes an undesirable customer, all the trade are advised, and his credit is either curtailed or entirely cut

off. If that system was generally in vogue in the various trade lines, our loss and gain account would be less burdened with charges to cover bad debts at the end of each year. A new man or firm in business should always be asked for and furnish a detailed statement of his financial affairs direct to the house from whom credit favors are asked on a blank form furnished for the purpose. The request being properly explained, this will not be refused or offense taken by any reasonable man or firm. If so, the debtor is either evilly disposed or knows no better. If the former, he should be avoided. If the latter, you will surely have trouble before you are through with him. We have said the commercial agencies should be liberally patronized. They are valuable aids in determining prudent credit. They rely, as the credit man must, on various sources of information, and are not always correct; but they aim to be honest. They do no one intentional injustice, and you are reasonably safe in following their advice, especially if unfavorable. Little use, however, should be made of the printed ratings in the reference books. Work independently of them. We know of large houses who do not allow the reference book to be brought in, depending entirely on the special reports.

The credit man should use every effort to meet and to know his customer. Personal contact often enables him to judge whether he will probably succeed or fail in business. He should be very keen and perspicacious. Small circumstances often determine important matters. We have all heard the story of the merchant who advertised for a boy. One was chosen out of a number responding. Replying to a friend as to why he chose that boy rather than some other, he said: "He removed his hat at once on coming in. He looked me straight in the eye when he spoke. He picked up and laid on my desk a paper I had purposely dropped," &c. If your customer makes up his order carelessly, writing several items on a line all run together, no system about it, looking as if it had been "fired out of a gun," you will find he keeps his store and looks after his business in much the same manner. If he remits by round amounts, or does not remit at all, and thus never settles rather than make a definite settlement every time he remits, you are safe in putting him down as loose and careless in his business methods. "Order is Nature's first law." The merchant who violates this law seldom succeeds.

The credit man should be cold-blooded. He is not the man, and it should not be expected of him, to entertain and take care of customers visiting the house. Perhaps it is too much to say that he should have no intimate personal friends among those customers, but that acquaintance, however intimate, must not influence his judgment one iota with reference to the credit. He should be able to say "No" and stick to it, and the sales department has no business talking him out of this notion. First impressions are said to be best and most lasting. How many times has it occurred in the experience of credit men who are present that accounts first turned down and afterwards O.K'd have proved unsatisfactory ones, and in many cases losses have resulted? The credit man should be to the house what the cashier is to the bank. A or B applies for a loan. The cashier says to himself, "There is \$500 in gold in my vault. Which would I rather have—that money or A's promise to pay me that money at a specified limited time with a little interest added?" The merchant's capital is invested in his goods. He has paid cash for them. Smith or Jones wants a bill of \$500 on 60 days' time, or

wishes to open a running account. Referred to the credit man, he ought candidly to say to himself, without prejudice either for or against the debtor, "Which would we rather have—these goods on our shelves, or Mr. Smith's quasi agreement to pay us what we paid for these goods plus a very small percentage of profit 30 or 60 days after delivery?" That "Credit is too cheap" is an old and threadbare verity, and yet we believe we fail to appreciate the importance of this statement.

The credit man need not, but as a rule does, have charge of the collections and correspondence referring thereto. He should be a man of cool judgment and firm convictions. His temper should never be allowed to rise even in the most exasperating cases. A clamorous letter written a delinquent but perhaps fairly desirable customer, usually reads differently at the other end of the line from that intended. A good plan is to let another about the house read and comment on this kind of a letter before sending it out, and have authority, if he thinks best, to throw it into the waste basket. Tact generally beats talent when it comes to getting a man to do as you think he ought to do. We spend our money, and a good deal of it too, to get a customer, and can ill afford by a mis-spoken or misconstrued word to acquire his ill will and thus drive his trade away from us, besides, what is often still worse, use his influence against us.

The credit man ought to be quite familiar with the collection laws and Supreme Court decisions on commercial law points in the various States in which his house does business. We believe attorneys are too frequently resorted to in the matter of jobbers' collections. A debtor can be coaxed a long way further than he can be forced. Legal counsel ought to be frequently taken, but legal action should be reserved for extremely urgent cases and plain cases of fraud.

The chief causes of failures among the retail trade, who are our customers, are, I think, first, lack of capital, and second, incompetency; in fact, the latter partly covers the former, for the competent, judicious man will confine himself to his capital though it may be limited. The going in business of young men lacking mature judgment with little capital and without experience and not appreciating the competition of older and stronger houses is the cause of very many failures in commercial business. Men who make a single line of business their life work may become occasionally embarrassed but seldom fail outright; on the contrary, "a rolling stone gathers no moss."

It frequently happens that there is a vast difference between the intention and the ability of our debtor to meet his obligations. He may be ever so well disposed and anxious to pay, but cannot pay. The credit man ought to be familiar enough with the circumstances, and sufficiently far-sighted to judge in advance if his customer is able to carry out his promises. Loose methods of keeping accounts is a frequent cause of business disaster. You cannot expect a man to succeed who does not know what he owes, or how much is outstanding, or approximately what amount of stock is on his shelves, and who never invoices, and, therefore, does not know whether he is making or losing money, and how much.

I have reserved to the last the feature of commercial transactions which is most annoying to the credit man and productive of the most losses to the merchant; namely, the moral hazard, about which we have recently heard so much discussion, especially in in-

surance matters. We are able to exercise our judgment as to whether the honest debtor is getting ahead or going behind. If his intentions are good, we may with safety grant him large lines, and occasionally extend him extra favors, though our experience is that these are seldom appreciated, and are reciprocated only so long as it is to the interest of the debtor to do so. But when the country customer deliberately sets out and for a considerable time pursues a studied policy to beat his creditor out of his just dues, there is hardly any recourse. Such a man usually knows the importance of a favorable commercial rating, and secures it by malicious misstatements if necessary. He usually starts out by discounting his bills, then for a time he will pay promptly, then perhaps become delinquent in his payments and allow four or six months' business to accumulate. In the mean time he is accumulating stock, or turning it rapidly into money. When ready for a collapse, he either sells or trades out and puts the proceeds out of reach, or "lays down" with a big stock of goods on hand in the name of his wife or other relative, or perhaps his banker; or maybe he forms his business into a corporation, he himself remaining in charge. One knows to a moral certainty his transactions are fraudulent, but it is of little use to resort to the courts. Local courts, and particularly local juries, are notoriously prejudiced against the foreign creditor. The laws in many of our newer Western States appear to be made rather for the debtor than for the creditor. Legal exemptions to married men in Minnesota, Iowa and Nebraska are much too liberal (made so perhaps in the early settlement of these States to encourage immigration) and ought to be amended. Legislation is needed, and badly needed, and merchants in all lines should get together in the various States and have our statutes changed to better protect the creditor. Our own State of Nebraska has had in effect for some years a General Assignment law forbidding any preferences, providing that all assignments must be made to the sheriff of the county, who acts temporarily until the creditors shall choose a regular assignee, &c., but this we find in many cases is evaded, especially if the debtor so intends.

Pardon me for engaging so much of your time. I have passed many items of interest to the credit man in his department. I want simply to touch one or two points—namely, the practice of "carrying the trade," and of "dating bills ahead." One is a premium on dishonesty and fraud and the other prompts a disposition to overbuy. Both lead into abnormally large credit lines. Both are pernicious and ought to be discouraged.

We are fortunate in that the custom, which, it is said, makes law, does not force Hardware jobbers to extend long credits. Let us not endeavor by undue and overeager competition to lengthen them, but rather shorten them. I would, as heretofore noted, recommend a system of frequent interchange of opinions among merchants in kindred lines with reference to every customer asking credit. I am favorable to the plan of a Western concern furnishing this class of information, to which I believe some of us are subscribers, but it does not go far enough, and does not seem by any means to cover the ground. I believe it might be well if every member of this association reported a list of his delinquent and unsatisfactory customers to our secretary, say once a quarter or oftener, who might compile these lists into one and furnish a copy to all the members, and thus all might have such unfavorable information in reference to a

debtor. I do not believe in arbitrary rules. I do not believe in trying to educate or dictate to our customers how they shall transact their business:

"Tickle the public and make it grin,  
The more you tickle, the more you win;  
But teach the public—you'll never grow rich,  
You'll live like a beggar and die in the ditch."

The prime object of the credit man in the house is to keep the delinquent accounts down to a minimum and to avoid losses. In order to do so, let him have these main points always in mind. If the party asking liberal credit favors—

Is a loose, easy buyer,  
Is careless in his business methods,  
Buys of everybody,  
Remits continually "on account," or  
Settles by sight draft,  
see that his account is within limit,  
and that he pays promptly at maturity.  
But if he  
Carries a cane,  
Parts his hair in the middle,  
Wears more and better clothes than  
you can afford,

Keeps a fast horse,  
Is partial to the "cup that cheers,"  
Is persistently inattentive to his business and his obligations or  
Ever had a crooked failure,  
close up your account at the first opportunity and cease soliciting his business.

You may miss a few orders, and your competitor may think he has obtained the advantage of you, but "he laughs best who laughs last." Fortunately the house whose credit man may smile rather than scowl when the report of the failure comes over the wire.

#### Address by Samuel M. Nicholson.

During the first session of the meeting of the association Samuel M. Nicholson, president and general manager of the Nicholson File Company of Providence, R. I., was introduced to the members and was called on for some remarks. He stated that it had been his pleasure, 11 years since, to attend the first meeting of the association at Davenport, Iowa, and congratulated the members on the success which had attended their efforts to build up an organization to guard their interests. Taking the word "Increment" as his text he then proceeded as follows:

Have you ever thought what a comprehensive and far reaching application this little word has?

Let me ask any one of you before me what was the prime factor in the formation of this body—your inevitable answer is, increment; and I am glad to note that it is a double increment—not alone the increment of business, but the increment of social life also, which tends to smooth down many of the sharp corners of business dealings, and shows us that Jones has a good side to his nature, even though he sometimes cuts prices like the dickens and adds a fearful increment to our chances of going below.

Again, what is the animating principle that governs the hustling traveler on the road? It is increment, and this, too, is a double increment when his salary and his sales go hand in hand together.

And so, my friends, look where you will, take any occupation, and the animating principle that governs all is increment. The merchant toils for the increment to his wealth, the student for the increment to his knowledge, the philanthropist for the increment to the world's good, the me-

chanic mainly to sustain the increment to his family, and all of us hope for an increment to our peace, comfort and happiness when the glories of the future life shall open up before us.

Congratulating the Hardware trade, not only of the two valleys but of the whole country, on the increment to their financial standing arising from the noble record they have made during the monetary whirlwind so recently passed, a record which has disclosed financial strength and sound business methods, without which there must have been a notable increment to the limited wreckage which the final record discloses, I close by wishing for all of you an ever increasing increment to your business, your wealth, your happiness and your life, and to your demand for the Nicholson Increment Cut File, and I would urge upon all of you the desirability of your obtaining for these goods a considerable increment over present prices.

#### An Enjoyable Excursion.

Wednesday afternoon was devoted to a steamboat excursion on Lake Minnetonka, in which the ladies participated. These comprised Mrs. T. G. WALTHER, Mrs. WALTER SCHENCK, Mrs. E. M. ANDRESEN and Miss ANDRESEN, Mrs. A. V. RECTOR, Mrs. R. K. COOPER, Mrs. A. L. RUHL and Mrs. T. H. RUSSELL. Their presence contributed greatly to the enjoyment of the occasion. Other guests of the association who were included among the excursionists were SAMUEL M. NICHOLSON of the Nicholson File Company, Providence, R. I.; T. H. RUSSELL of the Withington & Cooley Mfg. Company, Jackson, Mich.; W. R. SWEATT of the Sweatt Mfg. Company, Minneapolis; A. R. MILLER, a retired Hardware merchant of St. Paul, and GEO. W. COPE, associate editor of *The Iron Age*. The beautiful scenery of Minnesota's charming lake was seen under most pleasant auspices, but the excursionists were also treated to an exhibition of nature's changing moods, as the start was made in a perfect calm, while the landing was effected in a severe northerly gale, but without a mishap.

#### The Banquet.

In the evening occurred the eleventh annual banquet of the association, which was held in the dining room of the Hotel Lafayette. The following was the menu:

Small Patés of Shell Lobster.  
Queen Olives. Curled Celery.  
Cup Bouillon.  
Planked Isle Royal White Fish, Maitre d'Hotel.  
Cucumbers. Potatoes, Julienne.  
Sweetbreads in Cases.  
Lettuce, French Dressing.  
Claret Punch.  
Lamb Chops, aux Petits Pois.  
Potatoes, au Gratin.  
Charlotte Russe.  
Caramel Ice Cream. Assorted Cake.  
Demi Tasse.

The menu cards were artistically gotten up to form souvenirs of the occasion. President CONCHAR officiated as toast master and proved to be admirably fitted for the position. Responses to toasts were made by SAMUEL M. NICHOLSON, speaking to "Lake Minnetonka;" T. H. RUSSELL, "Man-

ufacturers;" A. R. MILLER, "Hardware Trade Reminiscences;" A. V. RECTOR, "The New Hardwareman;" T. G. WALTHER, "The Humors of the Hardware Trade;" R. K. COOPER, "The Ladies;" and GEO. W. COPE of *The Iron Age*, "The East and the West."

At the conclusion of the banquet a short business meeting was held and the firm of Geo. Haw & Co., Ottumwa, Iowa, were elected to membership. The meeting was then adjourned by the president, to assemble again on July 9, 1895, at Lake Minnetonka.

Some annoying errors were made last week in the telegraphic transmission of the names of the members present. The correct list is as follows: H. M. HILL and F. B. SEMPLE of Minneapolis; C. W. HACKETT, T. G. WALTHER and F. A. BOSTWICK of St. Paul; W. J. LANDON of Winona, Minn.; A. M. MARSHALL of Duluth; J. W. CONCHAR of Dubuque; C. A. KNAPP and C. E. FAETH of Sioux City; WALTER SCHENCK of Burlington, Iowa; E. M. ANDRESEN and A. V. RECTOR of Omaha; R. K. COOPER of St. Joseph, Mo.; J. W. CRANCER of Leavenworth, Kan.; A. L. RUHL of Kansas City; and C. HUBER of Oskaloosa, Iowa.

#### History of the Association.

The Mississippi and Missouri Valley Hardware Association was the outgrowth of a desire to secure for jobbers of that portion of the West more equitable treatment from railroads. Up to the time of the organization of the association scant attention had been paid to the development of Hardware jobbing interests in this important section of the country, and combined action seemed necessary in order to remove serious discriminations. The first meeting for the purpose of forming an association was held at Davenport, Iowa, in June, 1884, when C. W. HACKETT of St. Paul was elected president and J. R. NUTTING of Sicksels, Preston & Co., Davenport, was elected secretary. In 1885 the association met at St. Paul, when Mr. HACKETT was re-elected president and GEO. L. FARWELL of Farwell, Ozmun & Jackson, St. Paul, was elected secretary. The meeting in 1886 was held at Kansas City. Mr. HACKETT was retained in office as president and Mr. FARWELL as secretary. The meeting in 1887 took place at Burlington, Iowa, and the old officers were re-elected. In 1888 the association met at St. Paul with W. H. HALL of Hall & Willis Hardware Company, Kansas City, as president, and T. U. TOWNSEND of Kansas City Hardware Company as secretary. The meeting in 1889 was held at Omaha, and the officers were re-elected. In 1890 the association met at Minneapolis, with GEO. L. FARWELL, president, and W. S. WRIGHT of Rector & Wilhelmy Company, Omaha, secretary. The meeting of 1891 took place at Kansas City, and J. F. RICHARDS of Richards & Conover Hardware Company, Kansas City, served as president, and Mr. WRIGHT, secretary. The meetings of 1892, 1893

and 1894 were held at Lake Minnetonka, Minn. The officers in 1892 were re-elected; in 1893 T. G. WALTHER of C. W. HACKETT Hardware Company, St. Paul, was president, and G. T. SPRAKE of Wyeth Hardware & Mfg. Company, St. Joseph, was secretary. In 1894 Mr. WALTHER was continued as president, and H. M. HILL of Janney, Semple & Co., Minneapolis, was secretary. In addition to the annual meeting, special meetings are occasionally held at various points when deemed desirable.

The work of the association has thus been carried along regularly from year to year. Important measures have been originated and successfully carried out. The trade has been benefited, and the jobbers of the West have grown to know each other better and to learn that their interests are largely mutual and not antagonistic.

The present membership of the association is as follows:

JANNEY, SEMPLE & Co.,  
Minneapolis, Minn.  
C. W. HACKETT HARDWARE COMPANY,  
St. Paul, Minn.  
FARWELL, OZMUN, KIRK & Co.,  
St. Paul, Minn.  
ADAM DECKER,  
St. Paul, Minn.  
NICOLS & DEAN COMPANY,  
St. Paul, Minn.  
R. D. CONE COMPANY,  
Winona, Minn.  
MARSHALL-WELLS HARDWARE COMPANY,  
Duluth, Minn.  
SCHREIBER, CONCHAR & WESTPHAL COMPANY, Dubuque, Iowa.  
A. TREADWAY & SONS HARDWARE COMPANY,  
Dubuque, Iowa.  
KNAPP & SPALDING COMPANY,  
Sioux City, Iowa.  
C. E. FAETH,  
Sioux City, Iowa.  
J. D. SEEBERGER,  
Des Moines, Iowa.  
DRAKE HARDWARE COMPANY,  
Burlington, Iowa.  
ROB'T DONAHUE IRON & HARDWARE COMPANY,  
Burlington, Iowa.  
EMPKE HARDWARE COMPANY,  
Council Bluffs, Iowa.  
HUBER & KALBACH COMPANY,  
Oskaloosa, Iowa.  
HARPER & MCINTIRE COMPANY,  
Ottumwa, Iowa.  
GEO. HAW & Co.,  
Ottumwa, Iowa.  
LEE - CLARKE - ANDRESEN HARDWARE COMPANY,  
Omaha, Neb.  
RECTOR & WILHELMY COMPANY,  
Omaha, Neb.  
BLISH, MIZE & SILLIMAN HARDWARE COMPANY,  
Atchison, Kan.  
A. J. HARWI HARDWARE COMPANY,  
Atchison, Kan.  
J. W. CRANCER HARDWARE COMPANY,  
Leavenworth, Kan.  
WYETH HARDWARE & MFG. COMPANY,  
St. Joseph, Mo.  
GILLE HARDWARE & IRON COMPANY,  
Kansas City, Mo.  
RICHARDS & CONOVER HARDWARE COMPANY,  
Kansas City, Mo.  
TOWNLEY METAL COMPANY,  
Kansas City, Mo.  
CLARK, QUIEN & MORSE,  
Peoria, Ill.

## Letters from the Trade.

*Our readers are invited to discuss in these columns questions of trade interest connected with the manufacture or sale of Hardware. We shall be pleased to have a free expression of opinion on subjects deserving the attention of Hardware merchants and manufacturers.*

### Repair Shops in Connection with Hardware Stores.

In the letters from the trade relating to this subject a diversity of opinions has been expressed regarding the profits to be derived from repair shops in connection with Hardware stores. An Indiana Hardware merchant referring to a shop he is carrying on remarks as follows:

The returns from this department of my business are larger than can be realized from the same amount of money invested in Hardware. The shop also fills in the dull summer months by bringing in bicycle and machine repairing, also gas pipe filling; while in winter gun repairing and odd jobs keep us busy. I have in use a 2 horsepower engine with which are run a grindstone, shell crimper, pump, forge, emery stone, lathe, and in hot weather a fan. The engine is in use usually two or three days each week at a trifling expense. I believe in buying the best of tools, in never turning away a job, in never letting a job go out of the shop that is not well done, in charging good prices and in insisting that all repair work shall be paid for upon delivery.

### Electrical Goods

The position of Electrical Goods in connection with the Hardware store is referred to in the following communication from a merchant in Ohio.

Some two years ago we added a line of Electrical Goods to our stock, and the growth of the trade has been something unprecedented, showing conclusively that the goods are a part of legitimate Hardware. We have found the necessary stock to consist of Batteries, wet and dry, Annunciator and Paraffined Wire, Staples, Tape, extra Zincs, extra Jars, Push Buttons, wood and metal. Switches, Bells, Floor Pushes, Desk Pushes, Portable or Hand Pushes, Double Silk Cord and the necessary Tools—Pliers, Pincers, Long Bits, Wire Gauges, Chisels, Braces, &c., and with the line, Speaking Tubes, Mouth Pieces, Tubing and Indicators.

### Manufacturers and Direct Export Trade.

One of the leading houses in the English colonies, who have for a number of years been purchasing their American goods through well-known export houses, indicate in the following communication a preference for direct dealings with manufacturers through their representatives in the colonies. Inasmuch as an increasing number of manufacturers are establishing foreign agencies, or in other ways securing direct representation of their goods, the way in which this matter is regarded by buyers abroad is a subject of some interest. The letter opens with the statement that such foreign representation is a convenience to purchasers abroad and also of important advantage to the manufacturers. As an instance, the writer

mentions that they have recently purchased several leading lines of goods of American manufacture which, if they had not thus been brought to their attention, would in all probability have been ordered from a commission house in this city in which case other similar goods of a competing manufacturer would probably have been sent to them. The point they make is that the foreign representative of the goods in question secured the order which otherwise would have gone to competitors possibly better known. Continuing on this subject the writer says:

This sort of thing runs right through. The manufacturer with samples on the ground gets a better show for orders than his rival who has not, and this alone should encourage makers of articles to provide that which is instrumental in enticing orders. Of course this will not so well apply to extremely well-known lines, the form and make up of which are beyond doubt, but in the hundreds of new things continually being produced in the States, and the equally numerous articles that are alike produced by more than one manufacturer, it comes with tremendous force.

The American manufacturer is for some reason or another, and doubtless it is a solid one, at least superficially, closely allied to the commission agent, but this plan must only work in very much the same way as resulted from the action of the foolish man who turned off the tap to save his water, forgetting all about the awful leakage at the bung hole. From what we learn the commission agent does this: He gets the orders, he guarantees payment, he sees to the shipping and does a lot of the small work generally. He professes to sell to the merchant at the manufacturers' bottom prices, and boasts that to the uttermost fraction every tittle of discount that can be squeezed out of the manufacturer goes to the buying merchant. But the merchant, while believing all this, believes it with a qualification, and there is on his mind a grit of dissatisfaction and a large modicum of curiosity as to how on earth the commission man can do it on his 2½ per cent., and he does not believe he does do it, but is sure that there is an arrangement between the agent and his employer.

Now the spirit of modern trade—that is, honest trade—points to perfect candor and openness between the parties and the merchant, more particularly the merchant who is ready with his cash, who likes to know the why and the wherefore and to be pretty sure that there is no secret conclave grinding an axe to his detriment and putting a burden on his shoulders in the hope that he won't find out how he is being handicapped. We might also liken the commission agent as employed by American houses to an interpreter—a necessity only when people who speak different tongues have business to do together. With Englishmen and Americans all over the world there should be intimate trade relations, and the intervention of an utter personal stranger, as the commission agent often is to one of the contracting parties, should be done away with, to give place for the direct representative.

### Not Bidding for Trade.

The evil resulting from the making of bids by merchants on bills of Hardware and Tin work is increased by the persistency with which this method of capturing business is resorted to. The results of bidding are seldom satisfactory to either the person bidding or the purchaser, as prices are cut, and the inferior quality of goods, material and workmanship offered, in the absence of definite specifications, results in the unscrupulous being given the preference. The following extract from a letter by a progressive Michigan concern indicates the position taken by them in the matter:

We, of course, have some original methods, and do not run in any of the old ruts. We have no use for an imitator, but believe in having an individuality of our own. One of our rules is to never bid for any trade, but take all that comes, taking care of it in good shape. When a shopper comes along with a list of Roof work, Eave Trough, Hardware, &c., which he is

tioned above by which counters are almost entirely dispensed with is deserving of special attention, and the photograph shows the care and skill which have been given to the arrangement of the store. It has a metallic ceiling and is lighted by electricity.

### Loaning Tools.

A loss incident to the Hardware business, and often underestimated by the merchant, is the result of failure to return tools by those who borrow them. It is not an uncommon occurrence for salesmen to loan tools and neglect to make any memorandum of the loan. The following letter from an Illinois concern forcibly shows what such accommodations are likely to cost a merchant:

We are compelled to loan tools occasionally, but always charge them up when they go out, and in this way sell about \$100 worth of tools a year, as those borrowing fail to return them and are unable to find them when they pay their bills. Our principal business in this line is Screw Drivers, Hammers, Nail Pullers, Tinnerns' Snips and Saws.

### Remittance Blank.

THE following form of remittance blank is used by George W. Coblantz, Clarion, Pa. It is referred to as simple and complete:

<i>Gents: Inclosed please find remittance for \$ 98.00 in payment of my account as follows:</i>	
<i>Invoices April 10, 16 &amp; 28.....</i>	<i>\$110.00</i>
<i>Cash Discounts 2%.....</i>	<i>\$2.00</i>
<i>Freight Allowance.....</i>	<i>2.00</i>
<i>Overcharge.....</i>	<i>3.00</i>
<i>Merchandise returned.....</i>	<i>5.00</i>
	<i>\$110.00      \$110.00</i>

Yours Truly,

PLEASE ACKNOWLEDGE RECEIPT.

going to give to the lowest bidder, we never bid, and nine times out of ten we get the order. We have run now nearly six years, never took a contract nor bid on one, and believe there is more money in \$500 worth of work that comes in regularly than there is in \$1500 bid for. We run our shop full of work the year around, and turn off undesirable trade enough to keep a couple of tinsmiths going.

### Store Arrangement.

We have received from G. T. Rock, Lake Charles, La., an excellent photograph showing the arrangement of his store recently erected. It is a two-story brick building, the dimensions of the store being 30 x 80 feet. Concerning some of its features of arrangement Mr. Rock writes:

There are several things about it different from other stores. I have only one drawer in the building—the money drawer—as I think original packages of Hardware make an attractive showing. The room is wainscoted on the sides 3 feet from the floor to make a backing over Nail bins on one side and divided spaces on the other side underneath shelving for Carriage Bolts, Machine Bolts, Lag Screws, Strap and T Hinges, &c. I use all the space underneath the shelving so as to leave no place to stow away trash and unsalable goods. There is only one counter in the building and it is used for showcases. On the right hand side of the store above the Nail bins I have a wide shelf to show and wrap up goods on.

The feature of arrangement men-

We loan tools that have been used and charge at full price, and thus keep ourselves in new tools.

### A New Dodge.

THE NECESSITY for a knowledge of the value of goods and for care in dealing with parties who are unknown to the merchant is illustrated in the following communication from a traveling man:

I heard of a new dodge for working up trade while on my last trip. A concern in New York sent out watches C. O. D. to small towns in the West, billing and sending to a fictitious address, with instructions to notify the shippers if not called for in 15 days.

Of course the watch was not called for and in reply to the agent's notice to that effect the shippers sent him a typewritten letter in which they expressed great surprise at the way in which they had been treated, but offering the watch to the agent at half price if he could sell it or wanted it for himself.

I saw one of the watches and this cut price was all it was worth and left a handsome profit to the senders, but I heard that very few were sent back to New York. The whole thing had such an air of honesty about it, and seemed to show so plainly that whoever now bought was getting it at half price, that the agent, or a friend, snapped at the bait.

The man who had a head on him to think all that out would make a success of almost any business that he turned to.

### Sportsmen's International Exhibition.

A MOVEMENT is on foot, indorsed by a number of the leading manufacturers and dealers of sporting goods, to give in New York an elaborate exhibition, to extend over a suitable period, of all the utensils used by sportsmen in the past as well as at the present time. Manufacturers at home and abroad of all lines of firearms, ammunition, light ordnance, camping equipments as relating to field sports, taxidermy in all of its branches, fishing tackle and all appurtenances used by sportsmen, are to be invited to take part. Madison Square Garden, situated at Twenty-sixth street and Madison avenue, on account of its central location and desirable facilities, is considered the most suitable place for holding such an exhibition. It has been found that the Garden can be secured for the first two weeks of January, 1895, and it is believed that the exhibition can be opened to the public at that time if the work of preparation is at once taken up and vigorously pushed. It is proposed to conduct the exhibit under the auspices of a duly organized and representative association, composed of leading houses engaged in the manufacture and sale of the products exhibited. Some idea may be had of the character and scope of the proposed exhibit from the following classification, which has been hastily prepared and which is subject to modification and improvement:

- Class A. Prepared ammunition—Metallic Cartridges and Paper Shot Shells.
- Class B. Rifles, Revolvers, Pistols and other small Arms.
- Class C. Sportsmen's Arms.
- Class D. All the products handled by wholesale dealers, manufacturers' agents and importers of Firearms and Sportsmen's Goods.
- Class E. Gun Implements.
- Class F. The different Powders used for military and sportsmen's purposes.
- Class G. Sportsmen's Wear—Shooting Coats, Leggings, Gun Cases and other leather and canvas goods used by sportsmen.
- Class H. Lawn Tennis, Cricket, Base Ball, Foot Ball and Field Sport Supplies.
- Class K. Fishing Tackle, Rods, Reels and Anglers' Supplies.
- Class L. Rifle Sights and Accessories.
- Class M. Kennel Supplies—Prepared Foods, Remedies and Leather Goods.
- Class O. Artificial Targets, Traps and Electrical Apparatus used by trap shooters.
- Class P. Machinery used in the manufacture of small arms.
- Class Q. Examples in the art of taxidermy and Taxidermists' Supplies.
- Class R. Hand Cameras and Photographic Equipments as used by sportsmen.
- Class S. Camping Equipments and Supplies—Tents, Cooking Utensils, Canned Goods, Beverages and other requisites and luxuries for campers.

It is believed that in addition to the exhibit of useful products it is feasible to include implements of war and of the chase, costumes worn by native hunters, military uniforms of home and foreign armies, costumes of the armies of the Orient and of the semi-barbarous tribes of Africa, representations in papier maché and mounted specimens of the chase after animals as conducted in foreign countries, and small herds of buffalo, moose, elk, bear, and other game. Other features will no doubt suggest themselves as being of especial interest to the general public, as the work of preparation progresses. No exhibit of this nature

has ever been held in this country, and from the amount of interest shown by leading houses of the trade in New York City at so early a stage of the project, it is believed by those interested, that the opportunity will be unequalled for bringing before the public the numerous inventions and the various implements used by the great and rapidly increasing class of sportsmen throughout the world.

#### A CALL

has been issued to manufacturers, importers and dealers in Firearms, Ammunition, Fishing Tackle and Sportsmen's Goods throughout the country to attend a meeting to be held on August 27, at 2 o'clock p.m., in the rooms of the New York Hardware Club, Postal Telegraph Building, corner of Broadway and Murray street, to take into consideration the holding of such an international exhibition. The call is signed by the following representative and influential concerns:

Hartley & Graham.  
Union Metallic Cartridge Company.  
Winchester Repeating Arms Company.  
Laffin & Rand Powder Company.  
E. I. Du Pont de Nemours & Co.  
Schoverling, Daly & Gales.  
Marlin Firearms Company.  
Von Lengerke & Detmold.  
Charles J. Godfrey.  
A. G. Spalding & Brothers.  
United States Net & Twine Company.  
Tatham Brothers.  
Fred Sauter.  
The W. Fred. Quimby Company.  
Empire Target Company.  
Hunter Arms Company.

### Boston & Lockport Block Company.

**T**HE RECEIVERS of the Boston & Lockport Block Company announce that they have sold all the assets in their hands to Ambrose S. Beverly of Lockport, N. Y., and that the sale has been duly confirmed by the several courts having jurisdiction. It is also announced that Mr. Beverly has sold all his right, title and interest in the property purchased from the receivers of the Boston & Lockport Block Company (a New Jersey corporation) to the Boston & Lockport Block Company, a new corporation organized under the laws of the State of New York. This purchase includes the real estate, machinery, merchandise, patents, patterns, trade-marks, accounts receivable and all other property belonging thereto. The new company have a paid up capital of \$200,000, and its officers are as follows: Ambrose S. Beverly, president; Albert D. Bosson, vice-president, and Myron H. Tarbox, secretary and treasurer. It is stated that the two large and well equipped factories at Boston and Lockport will be continued in operation, as heretofore, that additional equipments will be added from time to time as may be found necessary, and that no efforts will be spared to maintain the high reputation which has been attained by the Blocks and patented specialties manufactured by the company.

John F. Chamberlain of Washington, D. C., the well-known caterer and epicure, while in the city recently visited the Hardware Club and was shown through the apartments by one of the members. He remarked that situation, view, &c., being considered the club had one of the finest dining rooms in America.

## Keeping a Record of Prices.

BY K. P. COLE.

**T**HE FOLLOWING SYSTEM of keeping a record of prices is best adapted to a small retail business carrying a united stock of Hardware, Stoves, Tinware and House Furnishing Goods. We have adopted it after trying first a system of files and later one of the best price books we could buy. The system of indexed files we found impracticable, because it took too much time to hunt quotations when we were making up an order for a jobber. Our difficulty with the price book in question was threefold:

The great labor necessary to itemize and describe goods not already described, and especially new goods as they came out.

The absence of all cuts and the impossibility of putting in many new articles, as new pattern bronze goods, cuts of which are almost essential.

Where lists were absent and the articles not enumerated it took as much work as to get up a wholesale catalogue, and where they were in we found them in many cases too much condensed or incomplete.

#### ANOTHER TROUBLE

was the difficulty of entering and indexing in a small book the great variety of articles carried in a mixed stock of Hardware, Stoves and House Furnishing Goods. In fact the work was so great that during busy times it would be neglected, and we soon found our book out of date and useless. The increasing method of quoting net prices where lists were in the book, and the impossibility of keeping a record of full lines of goods carried by specialty manufacturers whose quotations we receive and of whom we wish to order by mail was another trouble. Taking it all into consideration our price book was more trouble than it was worth. The foundation of our present price system consists of three things:

The most complete jobbers' catalogue we could procure, preferably that of the jobber of whom we buy most (if complete).

A large indexed paper file.

A shelf for the catalogue under the counter where the goods are bought and a drawer next to it for the file.

We cut the flap off the file, spread it to its full width and glued it to the bottom of the drawer. We took the catalogue to the book binder, had it taken apart and rebound with the addition of one-third as many stubs as there were leaves in the catalogue, also a full blank leaf for every index leaf and 50 blank leaves in the back end of catalogue; the last ten pages of which we indexed and headed with names of firms with their lines for mail orders.

#### THE STUBS USED

extend out about  $\frac{3}{4}$  inch, and as the catalogue we used had 2000 pages this enabled us to put in pasters equivalent

to 700 leaves before the catalogue would be level when closed. We had it covered with heavy canvas and thus had the foundation for our price book at a cost all told of \$5. We then sent 25 cents to *The Iron Age* for their Standard Hardware Lists and replaced all incorrect lists in the catalogue with these correct ones. Any traveling salesman will gladly take a few hours quoting prices to enter in our book. In entering prices we abbreviate as much as possible to make it clear, always noting date the quotation is received and leaving room for quotations from other houses. When we receive a circular from B. Mfg. Company, manufacturers of Chains, &c., in response to our inquiry for prices on Chains, Singletrees, Lap Links, Rings, and many other articles we carry, we copy off the prices under the different headings in the catalogue, using our own characters and always inserting date of quotation. Instead of destroying the quotation we file this in the index file, because there is a sufficient line for a mail order. Where the line only comprises a few articles, not enough for a mail order, we destroy the circular.

#### IN INSERTING THE QUOTATIONS

in the catalogue, if the list does not tally, we insert the new list and discount, or net price, as the case may be, and give the address of the manufacturer, freight allowance and date in as abbreviated form as possible, and yet have it plain, all before filing the quotation in the index file. We then turn to the 50 back indexed pages of the price catalogue, headed names of firms, with their lines for mail orders, and write the names and addresses in full; also a brief summary of the lines they manufacture, thus: B. Mfg. Company, Erie, Pa., Chains, Wagon Irons, Single and Double Trees, Lap Rings and Links, Rivets, Bolts, &c.

When a quotation is received in answer to a request we turn to the article in the catalogue and note the best price we have received, and if the jobber makes a better price we then note it in pencil, giving initial of house and date, letting both quotations stand. We make it a point to have quotations from two different houses standing at one time; not necessarily, but do not erase one to substitute another unless short of room. At a glance we can see when and by whom our best price was given. It often happens that the same salesman will quote different prices on different trips, when an interesting time often follows. Here is the value of price book when used systematically, as we buy goods of traveling salesmen.

#### THE EFFECT ON SALESMEN.

When we bring forth our catalogue that salesman knows he is confronted not only by prices he has made us from time to time, but also by the best price that we have received from all sources. He faces his competitors as a whole, and unless he gives us his very best prices he will soon establish a reputation for high prices and forfeit our

confidence. This plan is also very valuable for a record of prices on goods not kept in stock but ordered specially by mail. We are not limited as to the number of outside lines we can thus illustrate and keep track of, and many an extra dollar will come during the course of a year by a judicious use of the catalogue with reference of these outside lines.

#### TO SUM UP

the advantages of our plan, it will be seen at a glance to be the immense saving in the time and labor required to price up our catalogue and keep it up to date. Instead of having to describe and number in our catalogue all the articles we carry in stock (which would be almost equivalent to compiling a jobber's catalogue) the work is already done for us; and not only that, but it contains an illustration of nearly every article we buy. Another great gain is the fact that we are not cramped for room, as we can include our whole line. We carry stoves and paste cuts of the stoves we carry, pricing them up the same as any other line. Another thing we have found valuable in connection with our roomy catalogue was the possibility of keeping a strict record of our yearly sales on all seasonable goods, and even many staples. This record we make up from our bills during dull days, and it furnishes us a safe basis for placing orders for our next season's supply. We never exceed three-quarters of our previous year's sales in making stock orders, as this gives us a safe margin for the fluctuations of trade. The result is we never have necessary capital tied up in these lines between seasons. We illustrate our method as follows, with reference to Barb Wire, which is entered in the catalogue close to the illustration of the wire:

Bought in 1893:

	Hog.	Cattle.
Four-point Painted.....	3,000	1,000
Four-point Galvanized.....	25,000	1,500
Two-point Painted.....	6,000	3,000
Two-point Galvanized.....	1,500	500
All told.....	41,500	

We cannot urge this feature too strongly to the Hardware fraternity.

As to the goods themselves, when they arrive we mark cost and selling price on the boxes or on the goods, adding a profit which we maintain to all buyers. I think we are conservative in estimating that our catalogue saves us from 5 to 10 per cent. on all the goods we buy, and could we not duplicate it we would not part with it for \$200 in its present shape.

### Misleading Brands.

THE CIRCUMSTANCE alluded to in the following letter from a manufacturer's agent illustrates, we hope, in an extreme way, the indifference of some manufacturers to the truthfulness of their brands of labels. It is certainly to the credit of our correspondent that under the circumstances he refused to yield to the wishes of his customer:

We are ready to brand goods to suit our customers to almost any extent, but we almost lost our breath, not long since, when a customer gave us an order for cast Shears, and wanted us to brand them "Cast Steel."

We are glad to say that the house buying the goods and who wanted this is not in the Hardware trade. We told him we did not quite like to send out cast iron goods as cast steel. He wanted to know what difference it made to us, that they did not bear our name or the factory name, and no one could know us in the matter.

We agreed with him as to these points, but said we still hated to be a party to such a deceit, even though we were not known in it, and were selling the goods to him as they actually were. We said we would furnish the goods in plain boxes and he might label them to suit himself.

This did not suit the buyer, and nothing would do but our stamping the goods as he wanted. This we finally refused and so lost the order. There was only one bit of comfort in the whole thing, and that was the compliment he paid our Shears by intimating that they were good enough in appearance to pass as steel.

### Trade Items.

THE RUSSIA CEMENT COMPANY, Gloucester, Mass., are distributing among the trade Sample Racks made of tinned twisted wire, with three steps or tires, on which are placed 11 cans, such as their Le Page's Liquid Glue is sold in. The sizes are  $\frac{1}{2}$  gills, gills and  $\frac{1}{2}$  pints, and exactly like those sold to customers, except that being prepared for display purposes they are empty. There is an enameled sign at the back of the upper portion. This avoids waste of material, and often loss from being removed surreptitiously. The Rack, with suitable advertising literature, is sent free. Their New York office is at 95 Reade street.

JAMES MANN & SONS, Buffalo, N. Y., in their advertisement on another page call attention to the Strap Hinges which they are putting on the market. It will be observed that they refer to the fact that they are not in the association on these goods.

E. BISSELL, SON & CO., 12 Murray street and 15 Park Place, New York, among the Special Notices this week announce a sale for Tuesday, August 21, in which by order of the St. Louis Stamping Company, Granite and Blue and White Ware, seconds and first quality Granite Ware, discarded numbers, will be disposed of, together with a quantity of Solid Steel Market Cleavers. A sale is also announced for Wednesday and Thursday, August 22 and 23, when a large assortment of Table and Pocket Cutlery, Silver Plated Ware, &c., will be offered.

AMERICAN SPECIALTY COMPANY, Hartford, Conn., and 64 Reade street, New York, in their page advertisement in this issue illustrate the Columbia Tack Puller and Columbia Tack Puller and Hammer which they are putting on the market, the prices on the goods being also given. The company advise us that their Nail and Tack Pullers have just received awards from the Midwinter Fair at San Francisco.

### Price-Lists, Circulars, &c.

S. D. KIMBARK, Chicago, Ill.: Sleigh material. An illustrated catalogue and price-list for 1894-95, in condensed form, is devoted to

Sleigh material. It includes many new goods, and attention is called especially to the Rampis Sleigh Knee.

THE J. A. DEARMOND MFG. COMPANY, Linwood, Cincinnati, Ohio: Hames. An illustrated catalogue, showing these goods in a variety of styles and finishes, is accompanied by price-list No. 20.

CORDLEY & HAYES, 172 Duane street, New York: Indurated Fiber Ware. Catalogue No. 300, under date of August 1, illustrates with descriptions and prices a line of these goods. Accompanying circulars call attention to Wash Basins, Spittoon Tops, Pail Covers, Slop Jar Mats, &c., which by a new process are made much more economically, more shapely in appearance and still retain the good qualities of their Fibrotta or Lily brand of Indurated Fiber Ware. A Bucket with wood faucet is also offered, from which to retail sweet cider.

CHICAGO ICE TOOL WORKS, C. A. Hiles & Co., Chicago, Ill.: Ice Tools, Ice Elevators and Ice Cutting Appliances. An illustrated list describes, with prices, Ice Plows, Planes, Chisels and Bars, Scoop Nets, Hooks, Hoisting Tongs, Gin Blocks, Snow Scoop Scrapers, Ice Elevators, &c.

C. SIDNEY SHEPARD & Co., Chicago, Ill.: Fall circular of seasonable and other goods. The price current is devoted to illustrations, descriptions and prices of Coal Vases, Stove Boards, Coal Hods, Fire Shovels, Fry Pans, Stove Pipe Elbows, Roasters and Bakers, Mica, Hollow Ware, Stove Polish, Tea Kettles, Oil Heaters, Lanterns, &c.

### It Is Reported—

#### Arkansas.

That H. A. Williams, formerly of LOUISBURG, KAN., has removed his stock of Hardware, Tinware, Sporting Goods, &c., to SILOAM SPRINGS, where he is now located.

#### California.

That the Boschken Hardware Company has been organized at SAN JOSE. Henry D. Boschken and John Moore Harkins comprise the company.

#### Colorado.

That Taylor & Co., DENVER, have purchased the Hardware store of K. G. Rutter & Son, BOULDER.

That \$200 worth of Revolvers, Razors, &c., were stolen from the Hardware store of C. E. Durkee, COLORADO SPRINGS, on July 27.

#### Delaware.

That W. F. & J. R. Clements' Hardware store at CLAYTON was recently burglarized, and \$13 in cash and \$60 worth of Cutlery taken.

#### Illinois.

That Riggs & Goodman of CABERY have decided to remove to ROCKFORD, where they will establish a wholesale and retail Cutlery house.

That K. E. Bills of COLETA has sold his Hardware store and stock to K. Kingsbury and Lemuel Gerdes, who will hereafter conduct the business.

That John Gallagher's Hardware store at GIFFORD was destroyed in a large fire at that place on the 9th inst.

That Edward Goble of MACOMB has purchased the stock of Hardware of Janes & Son, and will continue the business at the old stand.

That F. A. Dahlberg has sold his Hardware store at CAMBRIDGE to Martin Peterson.

That nearly all the business portion of FRANKLIN was consumed by fire on the 7th inst. A. H. Wright's Hardware store was among those destroyed.

#### Indiana.

That Lee Davisson is the successor of James & Combs in the Hardware business at JONESBORO. Mr. Davisson

will make a specialty of Tin Work and Gas Plumbing.

That A. C. Mahorney, dealer in Hardware, Stoves, &c., CRAWFORDSVILLE, has sold out.

#### Iowa.

That E. H. Betts has retired from the Hardware firm of Betts Bros., HAWARDEN. F. M. Gardner and J. T. Van Orman have purchased his interest and the business will be continued under the style of Betts & Co.

That D. C. Peck and W. H. McFarland of SHELDON have formed a partnership and purchased F. R. Field & Co.'s stock. They expect to take possession of it about September 1. Messrs. Field & Co. expect to locate somewhere in MINNESOTA.

That the Hardware business formerly owned by E. L. Townsend, at LE MARS, has been sold by him to E. L. and T. G. Dimmick, who will conduct the business under the firm style of Dimmick & Co.

That George Evanson purchased and took possession of H. M. Ultang's Hardware stock, at CALLENDER, on August 1.

That Leonard Bros.' Hardware store at BROOKLYN was recently damaged by fire.

That the store of William Probert at EAGLE GROVE was burned out a short time since.

That J. W. Jones, dealer in Hardware, &c., MARCUS, has been succeeded by Yeager & Co.

That the store of Ainsworth, Holmes & Co. at STUART was destroyed by a recent fire.

#### Kansas.

That Roembach Bros. of GARDEN PLAIN are making preparations to erect a brick business block.

#### Massachusetts.

That S. M. Scribner, MELROSE, has bought out his partner, C. C. Swett, and will continue the Hardware business alone.

#### Michigan.

That Leslie C. Purdy has purchased the Hardware stock of A. E. Hebblewhite, CASS CITY, and will continue the business at the former stand.

That L. C. Hunter's Hardware store at SARANAC was destroyed by fire on the 31st ult. Loss \$4000; insurance \$3000.

That Hooker & Whitmore are a recently established Hardware firm at WAYLAND.

That Wood & Thoenen, SAULT STE. MARIE, have purchased the stock and business, good will, &c., of C. W. Given.

That G. G. Lovely's Hardware store at LAKEVIEW has been burned out.

That B. T. Whelpley, Hardware merchant, MULLIKEN, has disposed of his business.

That M. N. Park & Son, FLUSHING, have dissolved.

That Frederick Plaff & Co., GRAND HAVEN, suffered \$500 loss from a recent fire. The loss is fully covered by insurance.

#### North Dakota.

That in a large conflagration at LA-MOURE on the 2d inst. the Hardware store of A. S. Howe was destroyed. Loss \$3500; insurance \$1800.

#### Mississippi.

That J. C. Broyles has recently entered the Hardware business at COLUMBUS. Mr. Broyles is also carrying a line of Sporting Goods, Bicycles, &c., and is conducting a repair shop, where Shells are loaded to order and general repair work is done.

That E. Bruser, VICKSBURG, is closing out his Hardware business.

#### Missouri.

That Walter Christy will soon enter the Hardware business at UNIONVILLE.

That Somerville & Summers have purchased C. S. Hunter's Hardware stock at SAVANNAH.

#### Nebraska.

That the Hardware store of Korb Bros., WEST POINT, was robbed on the night of the 4th inst. Entrance was effected through the cellar window in the rear of the store. Large quantities of Knives, Revolvers, &c., were taken.

#### New York.

That George P. Brand & Son will open a new Hardware store at SILVER CREEK about August 15.

That Cole & Brace, JORDAN, are erecting a new store building.

#### Pennsylvania.

That William Colston, SUSQUEHANNA, recently suffered a fire loss of \$1000.

#### South Carolina.

That F. N. & P. C. Brunson have opened a new Hardware store at ORANGEBURG.

#### South Dakota.

That H. B. Wynn has sold his Hardware business at YANKTON to Prouch & Hough of ST. HELENA, NEB.

That John D. Groot, a farmer of PRAIRIE ROCK, has purchased the Hardware store and stock of M. S. Clark of PARKER.

That the Spurling Hardware Company were organized at ARMOUR on June 1. They are doing a retail business in Hardware, Implements, Wooden Ware, Glass, Iron and Steel, Wood and Iron Pumps, Stoves, &c.

That Ellis Bros. have opened a new Hardware store at MONTROSE.

#### Texas.

That the Hardware business formerly conducted by Walls & Chestnut, at ARCHER CITY, is now being carried on by Mr. Chestnut alone. Mr. Walls having disposed of his interest.

That C. C. Graves is the successor of the Hardware firm of Leeper & Graves, GAINSVILLE. He is doing both a wholesale and retail business.

That Finn, Fowlkes & Co. of WICHITA FALLS have purchased the Hardware stock of W. L. Bickers & Co.

That Shannon & Co., LA PORTE, are erecting a new store.

#### Vermont.

That D. Dewey & Son, dealers in Hardware, Stoves, &c., MONTPELIER, have sold out to Peck Bros.

#### Virginia.

That R. L. Thomas, Hardware and Tin, CLIFTON FORGE, has been burned out. The loss is estimated at \$4000; insurance \$2400.

#### Wisconsin.

That the H. Koepke Hardware Company have been organized at WEST BEND. The new firm will be ready for business about September 1.

That C. B. Wagner of BURLINGTON is moving his Hardware business to new and larger quarters.

That C. H. Cleveland is the successor of the Rice Lake Hardware Company, at RICE LAKE.

That Kissinger & Hanson, WEYAUWEGA, have been succeeded by Geo. Uttermark & Bro.

*The Hardware trade throughout the country are requested to report business changes, improvements and other matters of trade interest suitable for mention in this department.*

## Paints and Colors.

*It should be understood that the prices quoted in this column are strictly those current in the wholesale market, and that higher prices are paid for retail lots. The quality of goods frequently necessitates a considerable range of prices.*

*White Lead.*—Operations in domestic product have been on a moder-

ate scale. Tariff uncertainties have checked purchases by large consumers, who have a great deal to risk, and besides this, the condition of general trade, more particularly the quietude in the building line, has had more or less unfavorable influence. There is still some uncertainty concerning the effect of the new rates on values. How the latter bears upon the situation is illustrated in the fact that English Dry White Lead has been offered at 3½¢ in bond, subject to duty clause, while a lower quotation than 4½¢, ordinary trade terms is the exception on domestic. Lead in Oil is taken to about the usual extent in a jobbing way, and prices have shown nothing more than ordinary fluctuation during the past week.

*Red Lead.*—Foreign brands are handled very conservatively. Large buyers are disinclined to venture even where broad duty clause may be inserted in contracts, and in other quarters the disposition is as usual to avoid risks. In the domestic product the dealings have been moderate, and while somewhat uneven, prices show no radical change.

*Litharge.*—No change of importance has taken place in the market for this article. Probably the average orders have been placed for the low grades used by rubber and glass manufacturers, but the better qualities employed in the paint trade have remained extremely quiet. Prices are still rather unsettled, but show no radical change.

*Orange Mineral.*—Although tariff matters have reached a solution, business is not in shape to permit of placing orders for foreign brands with any degree of safety. Hence the business in this line is rather below the average for the season, and prices are more or less uncertain. Domestic brands, being an unimportant factor, have, as usual, to await developments.

*Zincs.*—Buyers have not manifested much livelier interest in domestic Oxide. To all accounts the deliveries on old orders keep the majority well supplied and little inclination to place orders for round lots is shown. Sellers make some display of indifference, but the circumstantial evidence is that they are more anxious than are buyers, and the market is soft to that extent, although no radical changes in prices have been made. In the foreign brands very little has been done and prices have varied in a slight degree only.

*Colors, &c.*—The movement in Dry Colors has been very moderate. Grinders have placed none but very ordinary contracts, and from other sources the demand has been merely fair for the season. Prices have moved within very narrow bounds. Oil Colors and Mixed Paints have met with only fair sale, and while somewhat variable prices have fluctuated but little.

*Miscellaneous.*—There is no change whatever in the market for chalk. The movement in prices of Whiting have been narrow. The same may be said of Putty, but business in the several lines seems to be fair for the season.

## Oils and Turpentine.

*Linseed Oil.*—On the surface the market looks calm and serene. Statements from a few quarters go to show that there is still competition, and that what is termed market quotations do not cut much of a figure when particularly desirable orders come up for competition. As a matter of fact, out of town brands have been quietly offered at 50¢ for autumn delivery, in carload lots, and it is intimated that city crushers have not allowed business to slip through their fingers at corresponding rates. Still there is pretense

of firmness, and the former line of quotations is continued. Business has been only fair, and buyers have moved very indifferently.

**Cotton Seed Oils.**—Large consumers in the West have purchased quite liberally of both crude and refined Oil to be shipped direct from the mills. Those purchases have served to steady the market in some degree. Otherwise there is nothing of interest to note. Home buyers have purchased indifferently, and exporters have done nothing to speak of. Prices stand just about as they were a week ago.

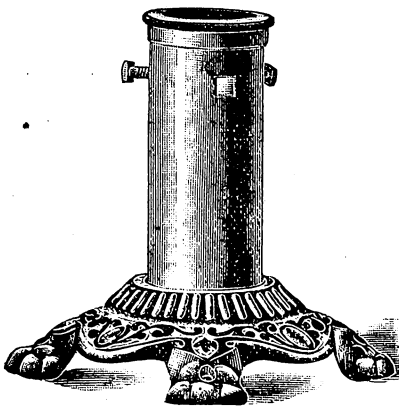
**Lard Oil.**—Although some advance has taken place in the price of raw material, prime Lard Oil may be secured at 54¢ in round lots and at 55¢ @ 56¢ by the single barrel. In other words, it is a barely steady market with business fair, but not up to what it should be.

**Fish Oils.**—Very little business has been done in crude Sperm, Whale or Menhaden Oils, and the views of buyers and sellers remain about the same as they were a week ago. The pressed and bleached products move out fairly in moderate quantities, but have undergone no change in price.

**Spirits Turpentine.**—The contest between the combine and independent operators has moderated somewhat, but there is still enough stock to go around and prices have not turned except to a very limited extent in a fractional way. Latest business was at 29½¢ @ 30¢, as to style of package.

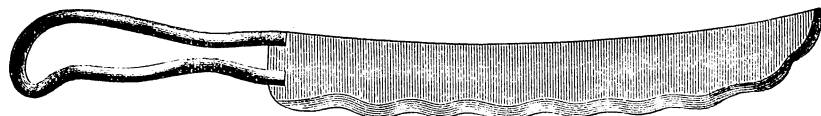
#### Christmas Tree Holder.

The Penn Hardware Company, Reading, Pa., are offering a holder for Christmas trees, as illustrated herewith. It consists of a base and cylinder made en-



Christmas Tree Holder.

tirely of iron, well riveted, measuring 8 inches across the base and standing 8 inches high. The cylinder is finished in ebony and the base in ebony and gold. The holder can be securely fastened by four wood screws through its

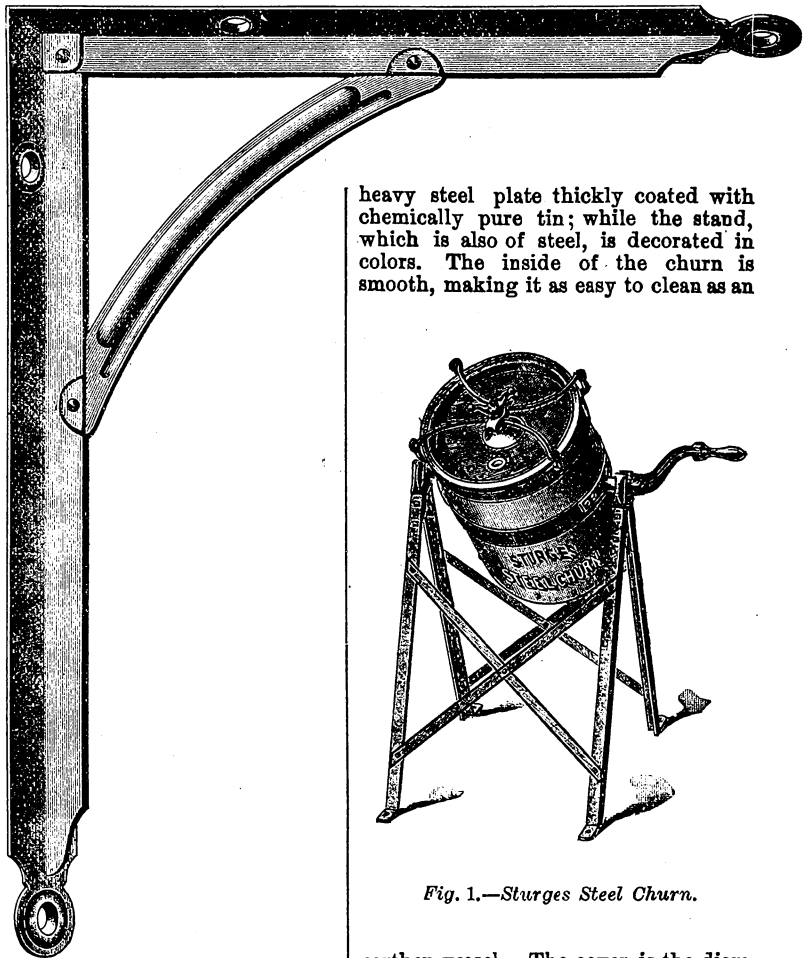


American Bread Knife.

base, while the tree is held in position in the cylinder by three set screws, for adjusting which a small wrench accompanies each holder. The advantages and finish of the holder are points emphasized by the manufacturers. The holders are intended to retail for 50 cents each.

#### Wrought Steel Shelf Bracket.

The Stanley Works, New Britain, Conn., and 79 Chambers street, New York, are putting on the market a wrought steel bracket, as shown here-



Wrought Steel Shelf Bracket.

with. The use of the arched or angle forms of steel in the wall and shelf plates are referred to as giving more strength with less metal than if made flat, and the corrugation of the brace renders it secure, it is remarked, against buckling or bending sideways under the severest strain. The application of these principles, it is claimed, results in a light, but strong bracket.

#### American Bread Knife.

The cut here shown represents a bread knife put on the market by the American Cutlery Company, Chicago, Ill. The makers refer to the knife as differing in appearance from others both in the blade and in the handle. The

handle is put on the blade of the knife by pressure, there being two small holes punched in the blade, into which lugs stamped on the inside of the slots of the handle fit. The lugs in the slot of the handle are placed over the holes in the blade and are forced into position by pressure alone.

#### Sturges Steel Churn.

The Chicago Stamping Company, Chicago, Ill., are putting on the market a steel churn, illustrations of which are given herewith. The churn is made of

heavy steel plate thickly coated with chemically pure tin; while the stand, which is also of steel, is decorated in colors. The inside of the churn is smooth, making it as easy to clean as an

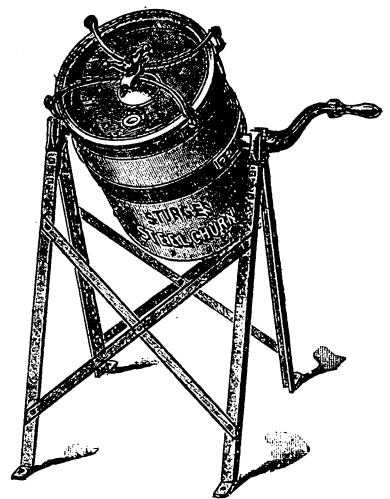


Fig. 1.—Sturges Steel Churn.

earthen vessel. The cover is the diameter of the churn's mouth, and has ¼ inch cork lining around the edge to prevent leakage. In the cover is a glass vent and peep hole for determining

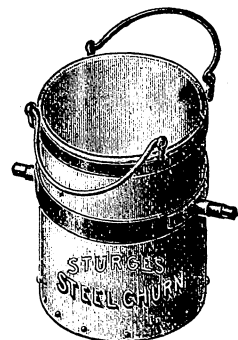
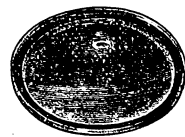
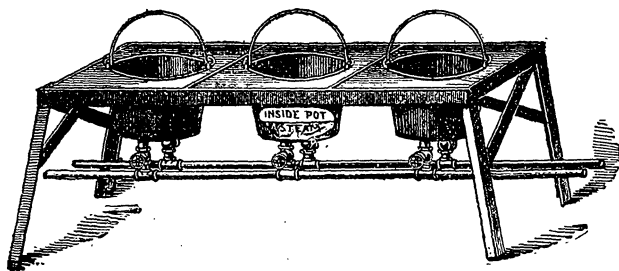


Fig. 2.—Interior of Churn and the Cover.

when butter comes and also to let off the gases. The manufacturers refer to the ease with which the churn may be kept sweet and clean, and to the fact that there are no hoops to fall off and cause the churn to leak.

### S. & P. Acme Steam Glue Pot and Stand.

The Stuart & Peterson Company, Burlington, N. J., are introducing glue pots and stand, as herewith shown.



S. & P. Acme Steam Glue Pot and Stand.

The cut indicates the manner in which the glue is heated by means of steam. The device is designed for use in planing mills, book binderies, furniture, refrigerator and box factories; pattern shops, carriage manufactories, car shops, &c. The stands are made for holding from one to six pots, which are tinned

is cast on, it grips them in a V on the outside edges, and also on the flat grooved surfaces on the inside. The makers state that there is not a rivet or perforation in the manufacture of the entire knife, that it has the feature of

being light and durable and that it cannot be damaged by water.

### Stevens .25-25 Caliber Cartridge.

J. Stevens Arms & Tool Company, Chicopee Falls, Mass., have perfected a



Stevens .25-25 Caliber Cartridge.

inside, blue enamel finish outside, and provided with brass balls.

### Stearns Steel Carpenters' Clamp.

The accompanying cut represents a carpenters' clamp offered by E. C. Stearns & Co., Syracuse, N. Y. The bars are made of steel rolled especially for the purpose, and are notched on the

.25-25 cartridge, as shown in the accompanying cut. The cartridge contains 25 grains of powder and 86 grains of lead. The company are prepared to furnish rifles for the cartridge, which are rifled on a 12-inch twist, and which will send, it is stated, a 100 grain bullet without keyholing. The company inform us that the Union Metallic Cartridge Company are prepared to furnish the ammunition, and that the Ideal



Stearns Steel Carpenters' Clamp.

lower side, which gives, it is stated, a much greater holding power to the loose jaw than where the notches are placed on the upper side of the bar. The screw is made of wrought iron with a machine cut thread, while the crank is malleable. The clamps are made in two thicknesses of bars, and in lengths 3, 4, 5, 6, 7, 8, 9 and 10 feet.

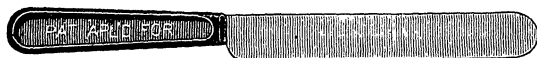
### American Case Knife.

The American Cutlery Company, Chicago, Ill., are introducing an all-metal case knife, as herewith illustrated. The knife is stamped from one piece of metal, including the handle. The rim of the handle is made of half oval wire,

Mfg. Company are prepared to furnish the loading tools.

ELI HILLSON, buyer for H. M. Hillson & Co., Boston, Mass., manufacturers and dealers in Tinware and Kitchen Furnishing Goods, will be in New York about August 23 on business connected with his firm. He will make his headquarters at 35 Warren street.

O. N. STEIN, 35 Warren street, New York, has just been made the selling agent of the Mascot Mfg. Company, 225 Race street, Philadelphia, Pa., for New York State and New England. This concern are bringing out a line of Slide Lamps and Brackets, detachable



American Case Knife.

grooved on the inside, then bent to the shape of the handle and forced on. Subsequently it is fastened in position by a cast lead shoulder. The ends of the wire rim forming the handle are cut on a slant, so that when the lead shoulder

and self locking. The frames are referred to as all steel and riveted. They also make a Towel Roller and Hat and Coat Rack on the same principle, resembling somewhat wrought Venetian iron work, at very moderate prices.

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# Current Hardware Prices.

AUGUST 15, 1894.

NOTE.—The quotations given below represent Current Hardware Prices, whether made by manufacturers or jobbers. They apply to such quantities of goods as are usually purchased by retail Hardware merchants. Very small orders and broken packages often command higher prices.

The character @ is used to indicate a range of price: thus discount 50 & 10% @ 50 & 10 & 5%, signifies that the goods in question are sold at prices ranging from 50 & 10% to 50 & 10 & 5%.

## Adjusters, Blind—

Domestic.....\$ dos \$3.00, 83% @ 83% & 10%  
Excelstor.....\$ dos \$10.00.....50 & 10 & 2%  
North's.....List net @ 10%  
Zimmerman's—See Fasteners Blind.

**Ammunition—See Caps, Cartridges, Shells, &c.**

## Anvils—

### American—

Eagle Anvils, \$ 2 8c.....1b @ 15 & 25%  
Horse shoe brand, Wrought.....11 @ 11%  
Moore & Barnes Mfg. Co.....33%

### Imported—

Armstrong Mouse Hole.....9% @ 10%  
B. & H. machine finished.....10% @ 11%  
Trenton.....9% @ 10%  
Wilkinson's.....10% @ 10%  
Peter Wright's.....10% @ 11%

## Anvil Vise and Drill—

Allen Anvil and Vise \$3.00.....40 & 10%  
Cheney Anvil and Vise.....25%  
Wheeler Falls Co., \$18.00.....20%  
Holt's.....40 @ 40 & 10%

## Apple Parers—See Parers

Apple, &c.

## Augers and Bits—

Boring Machine Augers.....70 @ 70 & 10%  
Car Bits, 12-in. twist.....50%  
Common Augers and Bits.....70 @ 70 & 10%  
Cincinnati Bell-Hangers' Bits.....80 & 10%  
Worthington Pat. Auger Bits.....15%  
Jennings' Pattern Car Bits.....60%  
Jennings' Pattern Auger Bits.....60%  
J. E. Jennings & Co., No. 10, extension  
lip.....40%  
C. E. Jennings & Co., No. 30.....60%  
C. E. Jennings & Co., Auger Bits, set  
82% quarters, No. 5, 85 No. 30, \$3.50, 25%  
Russell Jennings' Augers and Bits 25 & 10%  
Lewis' Patent Single Twist.....45%  
L'Hommedieu Car Bits.....15 & 10%  
Pugh's Black.....20%  
Pugh's Jennings Pattern.....30%  
Snell's Bits.....60 & 50 @ 60 & 10%

## Bit Stock Drills—

Cleveland.....50 & 10 & 25%  
Cincinnati, for wood.....30 & 10%  
Cincinnati, for metal.....45 & 10%  
Morse Twist Drills.....50 & 10 & 25%  
New Process Twist Drill Co.....50 & 10 & 25%  
Standard.....50 & 10 & 25%  
Syracuse, for metal.....60 & 10%  
Syracuse, for wood (wood list) 30 @ 30 & 25%

## Expansive Bits—

Clark's small, \$18; large, \$26.....40 @ 40 & 5%  
Ives' No. 4, \$ dos. \$80.....40 @ 40 & 10%  
Steers', No. 1, \$20; No. 2, \$18.....40 @ 40 & 5%  
Steers' No. 2, \$48.....20%  
Swan's.....40 @ 40 & 10%

## Gimlet Bits—

See.....25 @ 25 & 10%  
Common.....\$ gross \$2.50 @ \$3.00  
Diamond.....\$ dos \$1.25.....40 & 10%  
Double Cut:  
Hartwell's.....\$ gro., \$10.00, 40 & 10%  
Douglass's.....40 & 10 @ 50%  
Ives.....60 & 10 @ 60 & 10 & 5%  
Shepardson's.....45 & 10 @ 45 & 10 & 5%

## Hollow Augers—

Bonney's Adjustable.....\$ dos \$48.....50%  
Cincinnati Adjustable.....25 & 10%  
Cincinnati Standard.....25 & 10%  
Douglass's.....33% @ 33% & 10%  
French, Swift & Co. (Beecher).....33% @ 33% & 10%  
Ives'.....33% @ 33% & 10%  
Ives' Expansive, each \$4.50.....33% @ 33% & 10%  
Steers'.....20 & 10%  
Universal Expansive, each \$4.50.....20%  
Wood's, \$ dos., \$48.....25 & 10%

## Ship Augers and Bits—

L'Hommedieu's.....15 & 10 @ 15 & 10 & 25%  
Snell's.....25 @ 25 & 10%  
Snell's Ship Auger Pat'n Car Bits.....15 & 10 @ 15 & 10 & 25%  
Watrous'.....25 @ 25 & 10%

## Awl Hafts—See Hafts, Awl.

## Awls—

Brad, Handled.....\$ gr. \$2.50 @ \$3.00  
Brad, Shoulders.....\$ gr. \$1.30 @ \$1.40  
Peg, Pat.....\$ gr. 35 @ 38%  
Peg, Should.....\$ gr. \$1.50 @ \$1.55  
Scratch, Handled.....\$ gr. \$4.00 @ \$4.50  
Scratch, Socket.....\$ dos. \$1.10 @ \$1.20

## Awl and Tool Sets—See Sets, Awl and Tool.

## Axes—

First quality, best brands.....\$6.00 @ \$6.50  
First quality, other brands.....5.50 @ 6.00  
Beveled ad 50¢ \$ doz.

## Axle Grease—See Grease, Axle.

## Axles—

No. 1 Common.....3¢ @ 3 1/2¢  
No. 2 Common.....4¢ @ 4 1/2¢  
Nos. 7 to 14.....70%  
Nos. 15 to 22.....47%  
Nos. 19 to 22.....70%  
Concord Axles, loose collar.....4¢ @ 4 1/2¢  
Concord Axles, solid collar.....5¢ @ 5 1/2¢  
Tubular Axles.....50¢

## Bag Holders—See Holders, Bag.

## Balances—

Sash—  
Caldwell, low list.....30%  
Pullman.....60%

## Spring—

Spring Balances.....40 & 10 @ 50%  
No. 2000 20 80  
Chattillon, \$ dos.....\$0.80 0.95 1.75 net  
Chattillon Straight Balances. 40 @ 40 & 10%  
Chattillon Circular Balances.....50 & 10%

## Barb Wire—See Wire, Barb.

## Bars—

Crow—  
Cast Steel.....\$ 2 1/2 @ 3¢  
Iron, Steel Points.....\$ 2 1/2 @ 2 3/4¢

## Basins, Wash—

Standard Fiberware, No. 1, 10 1/2-in., \$1.80;  
12-inch, \$2.00; 13 1/2-inch, \$2.50; 15-inch,  
\$3.00.

## Beams Scale—

Scale Beams, List Jan. 12, '82.....  
Chattillon's No. 1.....50 & 10 @ 50 & 10 & 25%  
Chattillon's No. 2.....50 & 10 @ 50 & 10 & 25%  
Custers'.....33%

## Beaters—

Egg—  
Bryant's.....\$ gross \$14.00  
Double (H. & R. Mfg. Co.), \$ gro., No. 0  
\$12.00; No. 1, \$15.00; No. 2.....\$36.00  
Dover.....\$ dos \$1.00 @ \$1.20  
Dover (Standard Co.).....\$ dos \$1.00  
Duplex (Standard Co.).....\$ dos \$1.00  
Duplex Extra Heavy (Standard Co.).....\$ dos \$3.50  
Easy (H. & R. Mfg. Co.).....\$ gro \$12.00  
Improved Acme (H. & R. Mfg. Co.).....\$ gro \$9.00  
Silver & Co.....\$ dos \$5.50  
Spiral.....\$ gro \$4.25 @ \$4.50  
Triple (H. & R. Mfg. Co.).....\$ gro \$16.50

## Culinary—

Keystone, P. D. & Co., Each, No. 1, \$1;  
No. 2, \$2.....20%

## Bells—

Cow—  
Common Wrought.....80 & 10%  
Kentucky Durham.....70 & 10%  
Kentucky, Sargent's list.....70 & 10%  
Kentucky, "Star".....20 & 10%  
Texas Star.....50 & 10 @ 50 & 10 & 25%  
Western, Sargent's list.....70 & 10%

## Door—

Crank, Brooks'.....50 & 10 & 2%  
Crank, Cone's.....10%  
Crank, Connel's.....20 & 10%  
Gong, Abbe's.....33% @ 10%  
Gong, Barton's.....40 & 10 @ 60%  
Gong, Yankee.....45 & 10%  
Lever, R. & E. Mfg. Co.'s.....50 & 10 & 2%  
Lever, Sargent's.....60 & 10%  
Lever, Taylor's Bronzed or Plated.....net  
Lever, Taylor's Japanned.....25 & 10%  
Pull, Brook's.....50 & 10 & 2%

## Electric—

Bigelow & Dowse.....20 @ 20 & 10%  
Wollensak's.....20 @ 20 & 10%

## Hand—

Extra Heavy Brass.....70%  
Light Brass.....70 & 10 @ 70 & 10 & 25%  
Silver Chime.....33% @ 10%  
White.....70%  
Globe Cone's Patent.....25 & 10 @ 35%

## Miscellaneous—

Call.....45 @ 50%  
Farm Bells.....\$ 2 1/2 @ 3¢  
Steel Alloy Church and School Bells.....50%

## Bellows—

Blacksmith's.....60 & 10 @ 10 & 70%  
Hand Bellows.....40 & 10 @ 50%  
Molders'.....40 & 10 @ 50%

## Belting, Rubber—

Common Standard.....75 & 10 @ 75 & 10 & 5%  
Extra.....60 & 10 @ 60 & 10 & 70%  
Standard.....70 & 10 @ 75%  
N.Y.B. & P. Co., Carbon.....60 & 10 & 5%  
N.Y.B. & P. Co., Double Diamond.....60%  
N.Y.B. & P. Co., 1846 Para.....40 & 10%

## Bench Stops—See Stops, Bench

## Benders and Upsetters, Tire—

Detroit Perfected Tire Bender 15 @ 15 & 10%  
Green River Tire Benders and Upsetters.....20%  
Stoddard's Lightning Tire Upsetters.....15%

## Bits—

Auger, Gimlet, Bit Stock Drills, &c.,  
see Augers and Bits.

## Bit Holders—See Holders.

## Blind Adjusters—See Adjusters, Blind.

## Blind Fasteners—See Fasteners, Blind.

## Blind Staples—See Staples, Blind.

## Blocks—

Cleveland Block Co., Mal. Iron.....50 & 10 @ 50 & 10%  
Moore's Novelty, Mal. Iron.....50 @ 50 & 5%  
Sims Griffin Steel Machine Blocks 25 @ 25 & 10%  
See also Machines Hoisting.

## Boils—

## Carriage, Machine, &c.—

Com. list June 10, '84.....80 & 10 @ 80 & 10 & 5%  
Charter Oak, list Oct. 1884.....80%  
Genuine Eagle, Norway, list Oct. '84.....80 & 10 @ 80 & 10%  
Eagle, Norway, list Oct. '84 80 & 10 @ 80 & 15%  
Phila. pattern, list Oct. 7, '84.....80%  
R. & W. old list.....70%  
Bolt Ends, list Jan. 1, 1890, 80 & 10 @ 80 & 20%  
Machine, list Jan. 1, 1890.....80 & 10 @ 80 & 20%

## Door and Shutter—

Cast Iron Barrel Square, &c.....75 & 10 @ 75 & 10 & 5%  
Cast Iron Chain (Sargent's list).....65 & 10 @ 65 & 10 & 5%  
Cast Iron Shutter Bolts.....75 & 10 @ 65 & 10 & 5%  
Cast Iron Shutter Door Bolts.....60 & 10 @ 60 & 10 & 10%  
Wrought Barrel.....75 & 10 @ 80%  
Wrt B. K. Flush Common.....60 & 10 @ 60 & 10 & 10%  
Wrt Shutter, Brass Knob.....50 & 10 @ 50%  
Wrt Shutter, Sargent's list.....60% @ 70%  
Wrt Shutter, all Iron, Stanley's.....60% @ 70%  
Wrought Square.....75 & 10 @ 80%  
Wrt Sunk Flush, Sargent's list.....60 & 10%  
Wrt Sunk Flush, Stanley's list.....60 @ 60 & 10%

## Stove and Plow—

Plow.....80 & 10 @ 60 & 10 & 10%  
Stove.....65 @ 70%  
R. B. & W., Plow.....55%

## Tire—

Common, list Feb. 28, '83.....70 @ 70 & 10%  
American Screw Company.....  
Norway, Phila., list Oct. 16, '84.....80%  
Eagle, Phila., list Oct. 18, '84.....85%  
Ray State, list Feb. 28, '83.....75%  
Franklin Moore Co.:  
New York, Phila., list Oct. 16, '84.....80%  
Eagle, Phila., list Oct. 18, '84.....85%  
Eclipse, list Feb. 28, '83.....75%  
Port Chester Bolt and Nut Company.....  
Empire list Feb. 28, '83.....75%  
Keystone, Philadel., list Oct. '84.....80%  
Norway, Phila., list Oct. '84.....81%  
R. B. & W., Philadel., list Oct. 16, '84.....85%

## Bores, Tap—

Common and Ring.....20 & 10%  
Enterprise Mfg. Co.....33% @ 35%  
Ives' Tap Bore.....33% @ 35%

## Boring Machines—See Machines, Boring.

## Bow Pins—See Pins, Bow.

## Boxes, Letter—

Tatum's.....40

## Boxes, Wagon—

Per d.....23%

## Boxes, Miter.

Spilker's Excelstor, 3 in \$7.50, 4 in  
\$8.50, 5 in \$13.00, 6 in \$15.00.....20%

## Braces—

NOTE.—Most Braces are sold at net prices.

Barber's.....50 & 10%  
Bartholomew's.....50 & 10%  
Armstrong's.....50 & 10%  
Common Ball, American.....\$1.00 @ \$1.10  
Davis Patent.....50 & 10%  
Fray's Genuine Spofford's.....50 & 10 & 5%  
Fray's Nos. 70 to 120, 81 to 128, 207 to 414  
50 & 10 & 5%  
Ives' New Haven Novelty.....70 @ 70 & 5%  
New Haven Ratchet.....60 & 5 @ 60 & 10%  
Barber Ratchet.....60 & 5 @ 60 & 10%  
Barber's.....60 & 5%  
Spofford.....60 & 5 @ 60 & 10%  
P. S. & W. Co., Peck's Patent.....60%  
Rose & Johnson.....50%

## Brackets—

Shelf, fancy.....70 @ 70 & 10%  
Sargent's list.....70 @ 70 & 10%  
Other makes at a wide range of prices.  
Shelf, plain.....65 @ 70%  
Regular, list.....60 & 10 @ 70 & 10%  
Sargent's list.....60 & 10 @ 70 & 10%  
Bradley Self Brackets.....70 & 10%

## Bright Wire Goods—See Wire.

## Broilers—

Hens' Self-Inch.....9 10 9x11  
Basting, Per doz.....\$4.50 5.50 6.50  
New Haven Ratchet.....\$ dos. \$12.50  
New Haven.....50%  
Queen City.....33%  
Wire Goods Co.....65 & 10%

## Buckets, Well and Fire—

See Pails.

## Bull Rings—See Rings, Bull.

## Butcher's Cleavers—See Cleavers, Butchers.

## Butts—

Brass—  
Cast Brass, Fast.....33% @ 10%  
Cast Brass, Loose Joint.....33% @ 10%  
Cast Brass, Tiebolt's.....50%  
Wrought Brass.....80 & 10 @ 80 & 20%

## Cast Iron—

Fast Joint, Broad.....60 & 10 @ 60 & 10 & 10%  
Fast Joint Narrow.....60 @ 60 & 10%

Loose Joint.....  
Loose Joint, Japanned.....  
Loose Joint, Jap. with Acorns.....75 & 10  
Loose Pin, Acorns.....@ 80%  
Loose Pin, Acorns, Japanned.....  
Loose Pin, Acorns, Japanned,  
Plated Tips.....  
Mayer's Hinges.....  
Parliament Butts.....

## Wrought Steel—

Fast Joint, Broad.....  
Fast Joint, Narrow.....  
Fast Joint, Lt. Narrow.....  
Inside Blind, Light.....  
Inside Blind, Regular.....  
Loose Joint, Broad.....  
Loose Pin.....  
Table Butts, Back Flaps, &c.....  
Bronzed Wrought Butts 50 & 10 @ 50 & 10 & 5%  
List Jan. 2, 1893.....50 @ 50 & 5%

## Cages, Bird—

Hendryx Brass:  
3000, 5000, 1100 series.....10%  
1200 series.....40%  
200, 300, 600 and 900 series.....40 & 10 @ 50%  
Hendryx Bronze:  
700, 800 series.....40 & 10 @ 50%  
Hendryx Enameled.....40 & 10 @ 50%

## Callipers—See Compasses.

## Calks Too—

Burke's, One Prong, Blunt.....4% @ 5%  
Burke's, One Prong, Sharp.....4% @ 5%  
Burke's, Two Prong, Blunt.....5% @ 6%  
Burke's, Two Prong, Sharp.....5% @ 6%  
Gautier, One Prong, Blunt.....5% @ 6%

## Can Openers—See Openers, Can.

## Cans Milk—

S. B. & Co., 5-gal., \$3.00; 8-gal., \$4.40;  
10-gal., \$4.75 each.....40 & 10%

## Cans Oil—

Galvanized Blue Band, 1 gal., \$ dos. \$2.33  
Galvanized Blue Band, 5 gal., Tip Top.....\$ dos. \$12.00  
Galvanized Blue Band, 5 gal., Faucet.....\$ dos. \$8.00  
Glass Oil, Friend.....\$ dos. \$3.75

## Caps—Percussion—

Hicks & Goldmark's and Union Metallic  
Cartridge Co.....\$1.00  
Eley's E. B.....60 & 10%  
Eley's D. Waterproof, Central Fire.....\$1.50  
E. B. Grnd. Edge, Cent. Fire, 1-10's 47 @ 50%  
E. B. Trimmed Edge, 1-10's.....47 @ 50%  
F. L. Waterproof, 1-10's.....35 @ 37%  
G. D.....27 @ 30%  
Musket, Waterproof, 1-10's.....60 @ 63%  
S. B. Genuine Imported.....45%

## Primers—

Berdan Primers, \$1.00.....25%  
B. L. Caps (Sturtevant Shells) \$1.00.....25%  
All other Primers, \$1.20.....25%

## Cards—

Watson's Cotton, Wool, Horse and  
File, list January 28, 1891.....

## Carpet Stretchers—

See Stretchers, Carpet.

## Cartridges—

B. B. Caps, Con. Ball, Swrd., \$1.85 @ \$1.90  
B. B. Caps, Round, \$1.70 @ \$1.80  
Blank Cartridges, except 22 and 32  
cal., additional 10% to above discounts.  
Blank Cartridges, 22 cal., \$1.75.....25%  
Blank Cartridges, 32 cal., \$3.50.....25%  
Cent. Fire, Military and Sporting 15 & 25 & 32  
Cent. Fire, Pistol and Rifle.....25 & 25 & 32  
Trimmed Shells and Bullets.....15 & 25 & 32  
Rim Fire Cartridges.....15 & 25 & 32  
Rim Fire Military.....15 & 25 & 32

## Carpet Sweepers—

See Sweepers, Carpet.

## Casters—

Bed.....  
Plate.....60 & 10 @ 60 & 10 & 10%  
Shallow Socket.....  
Deep Socket.....80%  
Want Truck Casters.....45 @ 50%  
Gwinner's Common.....45 @ 50%  
Gwinner's Hercules.....45 @ 50%  
Martin's Patent (Phoenix) 45 & 10 @ 50 & 10%  
Payson's Anti-Friction.....70 @ 70 & 10%  
Payson's Truck.....60 & 10 @ 60 & 10%  
Socket Truck Casters.....50 & 50 & 10%  
Stationary Truck Casters.....50 & 10%  
Tucker's Patent, low list.....45%  
Yale Casters, low list.....45%  
Yale, Gem.....70%

## Cattle Leaders—

See Leaders, Cattle.

**Chalk Lines—See Lines.**

**Checks, Door**.....20%  
 Baldy's.....50%  
 Unity.....50%

**Chisels—**

**Socket Framing and Firmer**  
 Mr. Ohio Tool Co.....75¢ to 80¢  
 F. S. & W.....  
 Withers.....

**Buck Bros.**.....30%  
 Charles Buck.....30%  
 Douglass.....75¢ to 80¢  
 Merrill.....60¢ to 80¢ to 10¢  
 L. & J. White.....90¢ to 80¢

**Tanged and Miscellaneous**

**Buck Bros.**.....30%  
 Charles Buck.....30%  
 Butchers.....\$4.75 to \$5.00 to 2  
 Spear & Jacksons.....\$5 to 2  
 Tanged Firmers.....50¢ to 10¢  
 L. & J. White, Tanged.....25¢  
 Cold Chisels, fair quality, # 14 to 16

**Chucks**

**Beach Chucks**, each, \$8.00.....20%  
 Danbury.....each, \$8.00, 30¢ to 25¢  
 Graham Patent.....39¢  
 Morse's Adjustable, each, \$7.00, 20¢ to 25¢  
 Syracuse, Bais Pat.....25¢

**Skinner Patent Chucks**

**Combination Lathe Chucks**.....40%  
**Drill Chucks**.....25%  
**Independent Lathe Chucks**.....40%  
**Planer Chucks**.....20%  
**Universal Lathe Chucks**.....40%

**Union Mfg. Co.**

**Combination**.....40%  
**Independent**.....40%  
**Universal**.....40%  
**Victor**.....\$8.50, 25%

**Churns—**

**Schermald Star Barrel Churn**, each  
 8 gal., \$2.80; 10 gal., \$2.75; 15 gal.,  
 \$2.60; 20 gal., \$2.55.  
**Twin Union**, 5 gal., \$3.25; 7 gal.,  
 \$3.75; 10 gal., \$4.25.

**Clamps**

**Adjustable, Cincinnati**.....15¢ to 10¢  
**Adjustable, Hammers**.....15¢ to 10¢  
**Adjustable, Stearns**.....30¢ to 30¢ to 10¢  
**Barnes' Machinists' Clamps**.....39¢  
**Cabinet, Sargent's**.....70¢ to 10¢  
**Carpenter's, Cincinnati**.....25¢ to 10¢  
**Carriage Makers', P. S. & W. Co.**.....40¢ to 10¢  
**Carriage Makers', Sargent's**.....75¢ to 85¢  
**Eberhard Mfg. Co.**.....40¢ to 80¢ to 10¢  
**Joiners' Clamps, Tatum's**.....25¢ to 10¢  
**R. L. Tool Co.'s Wrought Iron**.....25%  
**Stearns' Clamps, see Vices, Saw Filers**  
**Screw**.....75¢ to 75¢ to 5¢  
**Warner's**.....40¢ to 10¢ to 10¢ to 5¢

**Cleavers, Butchers'**

**Beatty's**.....40¢ to 80¢ to 10¢  
**Bradley's**.....25¢ to 30¢  
**Foster Bros.**.....30%  
**New Haven Edge Tool Co.**.....40%  
**Nichols Bros.**.....30%  
**P. S. & W.**.....39¢ to 85¢ to 39¢  
**Schulte, Lohoff & Co.**.....40¢ to 80¢  
**L. & J. White**.....25%

**Clips**

**Baker Axle Clips**.....25%  
**Norway, Axle**.....65¢ to 10¢  
**Norway Spring Bar Clips**.....65¢ to 85¢  
**2d grade Norway Axle**.....70%  
**Steel Felloe Clips**.....# 1, 4¢  
**Superior Axle Clips**.....70%  
**Wrought Iron Felloe Clips**.....# 2, 5¢

**Cloth and Netting, Wire**

**—See Wire, &c.**

**Cocks**

**Hardware List (Globe, Kerosene, Lever**  
**Bibbs, Racking, &c.)**.....80¢ to 80¢ to 10¢

**Coffee Mills—See Mills, Coff.****Collars, Dog**

**Brass, Pope & Stevens' list**.....40%  
**Chapman Mfg. Co. Company, new list**.....40%  
**Embossed, Gift, Pope & Stevens' list**.....30¢ to 10¢  
**Leather, Pope & Stevens' list**.....40%  
**Medford Fancy Goods Co.**.....40¢ to 10¢ to 5¢

**Combs Curry**

**American Curry Comb Co.**.....38¢ to 40¢  
**Fitch's**.....50¢ to 10¢ to 10¢ to 10¢  
**Gibbs' National**.....# 2, \$2.00  
**Kohler's Human**.....# 2, \$1.75  
**Kohler's Magic Oscillating**.....# 2, \$2.00  
**Rubber, per doz.**.....\$10.00.....25%

**Compasses, Dividers &c.**

**Compasses, Callipers, Dividers**.....70¢ to 10¢ to 75¢  
**Bemis & Call Co.'s**.....  
**Dividers**.....  
**Callipers, Call.** Patent Inside.....65%  
**Callipers, Double**.....65%  
**Callipers, Inside or Outside**.....65%  
**Callipers, Wing**.....60%  
**Compasses**.....50¢ to 5¢  
**Excelsior**.....50%  
**Starrett's**.....  
**Combination Dividers**.....25%  
**Lock Callipers and Dividers**.....25%  
**Spring Callipers and Dividers**.....25¢ to 10¢  
**Stevens & Co.'s**.....25¢ to 10¢

**Coolers, Water**

**S. S. & Co.** 2-gal., \$3.40; 3-gal., \$4.00;  
 4-gal., \$4.50; 5-gal., \$5.00 each.....60%

**Coopers' Tools**

**—See Tools, Coopers.**

**Cord**

**Braided, Crown, Drab and Fancy**.....# 2, 50¢  
**Braided, Crown White**.....# 2, 50¢  
**Cable Laid Italian Sash**.....# 2, 10¢ to 20¢  
**Common**.....# 2, 8¢ to 9¢  
**Common Russia Sash**.....# 2, 12¢ to 15¢  
**Egyptian, India Hemp, Braided**.....20%  
**India Cable Laid Sash**.....# 2, 11¢ to 12¢  
**Massachusetts, White**.....22¢ to 34¢  
**Onawa Mill**.....  
**Crown, Solid Braided White**.....# 2, 22¢  
**Crown, Drab and Fancy**.....# 2, 22¢  
**Braided Giant, Drab and Fancy**.....# 2, 30¢  
**Braided, Giant, White**.....# 2, 20¢  
**Patent, good quality**.....# 2, 10¢ to 11¢  
**Patent Russia Sash**.....# 2, 15¢ to 14¢  
**Samson**.....  
**Braided, Drab Cotton**.....# 2, 42¢  
**Braided, Italian Hemp**.....# 2, 42¢  
**Braided, Linen**.....# 2, 50¢  
**Braided, White Cotton**.....# 2, 37¢  
**Semper Idem, Braided, White**.....20¢  
**Silver Lake**.....  
**A quality, Drab, 50¢**.....25%  
**A quality, White, 50¢**.....25%  
**B quality, Drab, 50¢**.....10%  
**B quality, White, 50¢**.....10%  
**Sylvan Spring, Extra Braided, Drab**.....30%  
**Sylvan Spring, Extra Braided, White**.....34%  
**1st Solid Braided**.....  
**1st Drab**.....# 2, 27¢

**Cracks, White**

**Hercules, Drab**.....# 2, 80¢  
**Hercules, White**.....# 2, 25¢  
**White Cotton Braided, fair**.....# 2, 25¢ to 24¢

**Wire Picture**

**Braided or Twisted**.....80¢ to 10¢ to 80¢ to 20%

**Corkscrews—See Screws, Cork.****Corn Knives and Cutters**

**—See Knives, Corn.**

**Crackers, Nut**

**Acme**.....  
**Japanned, # gro.**.....\$30.....50%  
**Nickel Plated, # gro.**.....\$30.....10%  
**Table (H. & B. Mfg. Co.)**.....40%  
**Turner & Seymour Mfg. Co.**.....50%

**Cradles**

**Grain**.....50¢ to 25¢ to 50¢ to 25¢

**Crays**

**White Crays**.....# gro.....60¢ to 64¢  
**Cases, 100 gr.**.....\$3.75 to \$4.25, at factory.  
**D. M. Steward Mfg. Co.**.....  
**Meats, Wore**.....# gro.....\$2.50, 20¢ to 25%  
**Railroad, # gro.**.....2.00, 20¢ to 25%  
**Rolling Mill, # gro.**.....2.50, 20¢ to 25%  
**Soapstone Pencils, # gro.**.....1.50, 20¢ to 25%  
**See also Chalk.**

**Creamery Pails—See Pails, Creamery****Crow Bars—See Bars, Crow****Curry Combs**

**—See Combs, Curry.**

**Cutters**

**American**.....1 2 3 4 5 30%  
**Nos.**.....\$5 \$7 \$10 \$25 \$50 \$60  
**Enterprise**.....25%  
**Nos.**.....10 12 22 32 42  
**Each**.....\$3 \$2.50 \$4 \$5 \$15  
**Dixon's, # doz.**.....40¢ to 80¢  
**Nos.**.....1 2 3  
**Draw Cut, each:**  
**Nos.**.....5 2 6 8  
**\$50 \$75 \$80 \$225**.....70¢ to 70¢ to 5¢  
**Hale's, # doz.**.....\$27.00 \$33.00 \$45.00  
**Nos.**.....12 15  
**Home No. 1, # doz.**.....\$26.00.....55¢ to 10¢  
**Little Giant, # doz.**.....40¢ to 10¢ to 60%  
**Nos.**.....305 310 312 320 322  
**\$35.00 \$48.00 \$44.00 \$72.00 \$68.00**  
**Miles' Challenge, # doz.**.....45¢ to 85¢ to 10¢  
**Nos.**.....\$22.00 \$30.00 \$40.00  
**Triumph No. 505, # doz.**.....\$21.00, 25¢ to 30%  
**Woodruff's, # doz.**.....40¢ to 80¢ to 5¢  
**Nos.**.....100 150  
**\$15.00 \$13.00**  
**Chadborn's Smoked Beef Cutter**.....\$60.00  
**Enterprise Beef Shavers**.....20%

**Slaw and Kraut**

**Tucker & Dorsey Mfg. Co.**.....40%  
**Kraut Cutters**.....40%  
**Slaw Cutters, 1 Knife, # gross**.....\$21.00  
**Slaw Cutters, 2 Knife, # gross**.....\$30.00

**Tobacco**

**Acme**.....# doz.....\$20.00, 40%  
**All Iron**.....# doz.....\$4.00, 10%  
**Champion**.....20¢ to 30¢ to 10%  
**Nashua Lock Co.'s, # doz.**.....\$18.00, 50¢ to 55¢  
**National**.....# doz.....\$21.00, 30%  
**Sargent's**.....# doz.....\$24.00, 60¢ to 80¢ to 10%

**Washer**

**Appleton's**.....# doz.....\$14.00, 10¢ to 10%  
**Bonney's**.....# doz.....\$10.00, 30% to 10%  
**Cincinnati**.....# doz.....25¢ to 10%  
**Johnson's**.....# doz.....\$11.00, 39¢ to 40%  
**Penny's, # doz.**.....Pol. \$14; Jap'd, \$16, 55%  
**Smith's Pat.**.....# doz.....\$12.00, 20¢ to 10¢ to 10%

**Diggers, Post Hole, &c.**

**Cronk's Post Bars**.....# doz.....\$80.00,  
 50¢ to 50¢ to 10%  
**Eureka Diggers**.....# doz.....\$10.00, 50¢ to 10%  
**Fletcher Post Hole Augers**.....# doz.....\$36.00,  
 20¢ to 20¢ to 10%  
**Gem, Improved, # doz.**.....\$9.00, 10¢ to 10% net  
**Gibbs' Columbia**.....# doz.....\$12.00  
**Gibbs' Hustler**.....# doz.....\$10.00  
**Gibbs' Imperial**.....# doz.....\$7.50  
**Gibbs' National**.....# doz.....\$12.00  
**Gibbs' Post Hole Digger**.....# doz.....\$12.75  
**Kohler's Hercules**.....# doz.....\$12.00  
**Kohler's Invincible**.....# doz.....\$14.00  
**Kohler's Little Giant**.....# doz.....\$18.00  
**Kohler's New Champion**.....# doz.....\$8.00  
**Ryan's**.....# doz.....\$20.00, 10%  
**Schneider**.....# doz.....\$34.00.....25%  
**Shimer's Hollow Handle**.....# doz.....\$24.00,  
 50%  
**Vaughan's Post Hole Auger**.....# doz.....\$8.50 to \$9.50

**Dividers—See Compasses****Dog Collars—See Collars, Dog****Door Checks**

**—See Checks, Door.**

**Door Springs**

**—See Springs, Door.**

**Drawers, Money**

**Money Drawers**.....# doz.....\$12 to \$20  
**Waddell's Improved, No. 1, # doz**.....\$15.00  
**Waddell's Improved No. 2, # doz**.....\$18.00  
**Waddell's Comb, Cutlery Case and**  
**Alarm Till**.....\$12.50

**Drawing Knives**

**—See Knives, Drawing.**

**Drills and Drill Stocks**

**Automatic Boring Tools**.....\$1.75 to \$1.85  
**Bench Drills, Stearns**.....60%  
**Blacksmiths**.....each \$1.75  
**Blacksmiths' Self-Feeding**.....each \$7.50, 20%  
**Breast, Bartholomew's**.....each \$2.50, 25%  
**Breast, Miller's Falls**.....each \$3.00, 25%  
**Breast, P. S. & W.**.....each \$3.00, 25%  
**Breast, Wilson's**.....each \$3.00, 25%  
**Chicopee Automatic Drill**.....20¢ to 10%  
**Goodell Automatic Drills**.....40¢ to 80¢ to 10%  
**Ratchet, Curtis & Curtis**.....30%  
**Ratchet, Ingersoll's**.....20% to 25%  
**Ratchet, Merrill's**.....20% to 25%  
**Ratchet, Moore's Triple Action**.....25¢ to 30%  
**Ratchet, Parker's**.....20% to 25%  
**Ratchet, Weston's**.....20% to 25%  
**Ratchet, Whitney's**.....20% to 10%  
**Whitneys' Hand Drill, Plain**.....\$11.00,  
 Adjustable \$12.00.....20¢ to 10%  
**Twist Drills**.....  
**Cleveland**.....50¢ to 10¢ to 10%  
**Diamond, W. & B.**.....50¢ to 10¢ to 10%  
**Graham's Pat. Groove Shank**.....50¢ to 10¢ to 10%  
**Morse**.....50¢ to 10¢ to 10%  
**New Process**.....50¢ to 10¢ to 10%  
**Standard**.....50¢ to 10¢ to 10%  
**Syracuse (Metal List)**.....50¢ to 10%

**Drill Bits or Bit Stock**

**Drills—See Augers and Bits.**

**Drill Chucks—See Chucks.****Dripping Pans**

**See Pans, Dripping.**

**Drivers, Screw**

**Allard's Spiral**.....50%  
**Brace Screw Drivers**.....25¢ to 10%  
**Buck Bros.**.....30%  
**Buck Bros. Screw Driver Bits**.....27¢ to 25¢  
**Clark's Pat.**.....50% to 40%  
**Cincinnati**.....25¢ to 10%  
**Champion**.....25¢ to 10%  
**Disston's**.....50%  
**Douglass Mfg. Co.**.....20¢ to 20¢ to 10%  
**Electric Spiral**.....50%  
**Rich's Socket and Ratchet**.....40¢ to 10%  
**Pray's Hot Die Sets, No. 3**.....\$13.00, 45%  
**Gay & Parsons**.....35%  
**Goodell's Automatic**.....60¢ to 80¢  
**Howard-Allard**.....50%  
**Jones Reversible**.....40%  
**Knappp & Cowies**.....  
**No.**.....70¢ to 10%  
**No. 2**.....70¢ to 10%  
**No. 3**.....60¢ to 10%  
**Nos. 4 and 00, Acme and Ideal**.....60¢ to 10%  
**Kolb's Common Sense**.....# doz.....\$6.00,  
 25¢ to 10%  
**Mayhew's Black Handle**.....60%  
**Mayhew's Monarch**.....45¢ to 10%  
**P. S. & W.**.....70%  
**Sargent & Co's**.....  
**No. 1, Forged Blade**.....60¢ to 10¢ to 10%  
**Nos. 20, 40 and 60**.....60¢ to 10¢ to 10%  
**Screw Driver Bits, Parr's**.....# gross, \$6.25  
**Screw Driver Bits**.....# doz, 50¢ to 75¢  
**Stanley R. & L. Co.**.....  
**No. 64, Varnished Handles**.....65¢ to 10%  
**No. 86**.....70¢ to 10%  
**Stearns**.....25¢ to 10¢ to 5¢  
**Syracuse Screw-Driver Bits**.....30¢ to 30¢ to 5¢  
**C. Williamson Wire Novelty Co.**.....50%

**Egg Beaters—See Beaters, Egg****Egg Poachers**

**See Poachers, Egg.**

**Electric Bell Sets**

**See Bells, Electric.**

**Emery—No. 4 to No. 54 to Flour, OF**

**46 gr.**.....150 gr. F.F.F.  
**1/2 kegs, # doz**.....4 1/2 5 3  
**1/4 kegs, # doz**.....4 1/2 5 3 1/2  
**1/8 kegs, # doz**.....5 5 5 1/2  
**10 lb. cans, 10**.....6 6 6 1/2  
**In case, 10**.....6 6 6 1/2  
**10 lb. cans, less**.....  
**than 10**.....10 10 10 8

**Enamelled and Tinned Ware—See Ware, Hollow****Escutcheon Pins**

**See Pins, Escutcheon.**

**Escutcheons**

**Brass Thread**.....60¢ to 80¢ to 10%  
**Door Lock**.....Same dis. as Door Locks.  
**Wood**.....25%

**Expanded Metal**

**List No. 5.**  
**Door Mats, Galvanized**.....25%  
**Fencing, Painted Sheets**.....20%  
**Netting, Painted Sheets**.....20%  
**Tree Guards, Painted**.....15%  
**Window Guards, Painted**.....15%

**Extractors, Lemon Juice**

**—See Squeezers, Lemon.**

**Fasteners, Blind**

**Austin & Eddy, # gr. sets**.....\$5.50  
**Mackrell's, # doz.**.....\$1.00, 20¢ to 20¢ to 10%  
**Security Gravity**.....# gr. \$7.50  
**Van Sand's Old Pat.**.....\$15 # gr. 60¢ to 10%  
**Van Sand's Screw Pat.**.....\$15 # gr. 60¢ to 10%  
**Zimmerman's**.....50¢ to 10%

**Faucets**

**B. & L. B. Co.**.....  
**West's Lock, Open and Shut Key**.....60%  
**Burnside's Red Cedar**.....60%  
**Burnside's Red Cedar, bbl. lots**.....60¢ to 10%  
**Cork lined**.....70¢ to 70¢ to 40%  
**Fenn's**.....39¢  
**Fenn's Cork Stops**.....39¢  
**Frery's Pat. Petroleum**.....60%  
**Metallic Key, Leather Lined**.....60¢ to 10%  
**National Measuring, # doz.**.....\$36.00, 25¢ to 10%  
**John Sanderson**.....40%  
**Pearless Best Block Tin Key**.....40%  
**IXL, 1st quality, Cork Lined**.....50%  
**Diamond Lock**.....40%  
**Perfection, Fla. Red Cedar (in boxes)**.....40%  
**Boss Metallic Key**.....60%  
**Reliable Cork Lined**.....60%  
**Van Sand's Old Pat.**.....\$15 # gr. 60¢ to 10%  
**No Brand, Red Cedar (in bbls.)**.....50¢ to 10%  
**Western Pattern Metal Key**.....40%  
**No Brand Metal Key**.....60%  
**Self Measuring**.....25¢ to 10%  
**Enterprise, # doz.**.....\$36.00.....25¢ to 10%  
**Lane's # doz.**.....\$36.00.....25¢ to 10%  
**Star**.....60%  
**Star, Metal Plug, new list**.....75¢ to 85¢  
**Lockport, Metal Plug, reduced list**.....60%

**Felloe Plates**

**See Plates, Felloe.**

**Fibre Ware—See Ware, Fibre****Fifth Wheels**

**Brewster**.....60¢ to 5¢  
**Derby and Cincinnati**.....45¢ to 5¢

**Files**

**Domestic**.....70¢ to 70¢ to 10%  
**American**.....60¢ to 10¢ to 70%  
**Arade**.....60¢ to 10¢ to 70%  
**G. & H. Barnett (Black Diamond)**.....60¢ to 10¢ to 70%  
**Eagle**.....60¢ to 10¢ to 70%  
**Nicholson Files, Rasp, &c.**.....60¢ to 10¢ to 10%  
**Nicholson (X.F.) Files**.....25%  
**Nicholson's Royal Files (Seconds)**.....75%  
**(extra prices on certain sizes.)**  
**Other makers, best brand**.....70¢ to 70¢ to 10%  
**Fair brand**.....75¢ to 85¢  
**Second quality**.....80¢ to 80¢ to 10%  
**Arade Horse Rasps**.....50¢ to 10¢ to 60%  
**Chelsea Horse Rasps, Hand Cut**.....50¢ to 10%  
**Heller's Horse Rasps**.....80¢ to 10%  
**McCaffrey's Horse Rasps**.....50¢ to 10¢ to 5¢  
**Mojoan Horse Rasps**.....60¢ to 10% to 5¢

**Imported**

**Butcher**.....Butcher's list, 20%  
**Stubbs**.....Stubbs' list, 25¢ to 5¢

**Fixtures Grindstone**

**Moore's**.....55¢ to 10%  
**P. S. & W. Co.**.....50¢ to 10¢ to 10%  
**Reading Hardware Co.**.....30¢ to 10¢ to 10% to 10%  
**Sargent's**

**Halters—**

Covett's Adj. Rope Halters.....	40¢22
Covett's Adj. Web Halters.....	35¢52
Covett's Hemp Horse and Cattle Tie.....	50¢10
Covett's Jute Cattle Ties.....	70¢10
Covett's Jute Horse Ties.....	70¢22
Covett's Rope, 7-16 in., Jute.....	70¢22
Covett's Rope, 1/2 in., Hemp.....	50¢22
Covett's Rope, Jute.....	60¢10
Covett's Saddlery Works Halters.....	35¢42
Covett's Saddlery Works Handy Vt. Halters.....	35¢42
Covett's Saddlery Works Horse and Cattle Ties.....	35¢42

**Hammers—****Handled Hammers—**

Atha Tool Co.....	50¢10
Buffalo Hammer Co.....	50¢10
Humason & Beckley.....	50¢10
Verree.....	40¢10
Cheney's Chisel.....	40¢10
Cheney's Machinist's & Riveting.....	60¢52
C. Hammond & Son.....	40¢10
Magnetic Tack, Nos. 1, 2, 3, 1.25.....	1.50
Maydole's, list Dec. 1, '88.....	25¢10
Peck, Stow & Wilcox.....	40¢40
Fayette R. Plumb.....	40¢40
Artisan's Choice, A. E. Nail.....	40¢22
Engineers' and B. S. Hand.....	60¢15
Machinist's Hammers.....	60¢15
Regular Y. & P. A. E. Nail.....	40¢15
Other Hammers.....	40¢15
Sargent's.....	40¢15
Warner & Nobles, new list.....	25¢10

**Heavy Hammers and Sledges—**

8 lb and under.....	30¢40
8 to 5 lb.....	30¢40
Over 5 lb.....	30¢40
Wilkinson's Smiths.....	10¢10

**Handcuffs and Leg Irons—**

See Police Goods.

**Handles—**

Cross-Cut Saw Handles—	
Atkins.....	40¢
Champion.....	15¢
Ely's Perfection.....	30¢
Sensible # doz. Pr.....	50.00
on, Wrought or Cast	
Barn Door, # doz.....	20¢52
Bronze Iron Dron Latches.....	40¢10
Chest Sargent's list.....	50¢10
Door or Window.....	50¢10
No.....	1.00
Per doz.....	1.00
Fap'd Store Door Handles—Nuts, 1.62.....	1.62
Plate, #1.10; no plate, #0.88.....	1.10
Boggin's Latches.....	28¢40

**Wood—**

Auger, assorted.....	gr 6.00
Auger, large.....	gr 7.00
Bradawl.....	gr 2.75
Apple Firmer Chisel, ass'd.....	gr 5.00
Apple Firmer Chisel, large.....	gr 6.00
Hickory Firmer Chisel, ass'd.....	gr 4.50
Hickory Firmer Chisel, large.....	gr 5.00
Socket Firmer Chisel, ass'd.....	gr 3.00
Socket Framing Chisel, ass'd.....	gr 5.00
Chisel, Fibre Head.....	33¢
Hammer, Hatchet, Axe, &c.....	40¢40
Hoe, Rake, Shovel, &c.....	60¢60
Pat. Auger, Douglass.....	set 1.25
Pat. Auger, Ives.....	30¢10
Pat. Auger, Swan's.....	set 1.00
Saw and Plane.....	40¢10
J. B. Smith & Co., Pat. File.....	50¢

**Hangers—**

Barn Door, No. England.....	70¢70
Barn Door, old pattern.....	70¢70
Barry.....	50¢
Best Anti-Friction.....	60¢10
Boss.....	60¢10
Carrier Steel Anti-Friction.....	60¢10
Champion.....	60¢10
Chicago Anti-Friction.....	30¢10
Cincinnati Anti-Friction.....	60¢10
Cincinnati No. 1, 2, 2.25; 3, 2.50; 4, 2.50.....	2.50
Crescent.....	60¢10
Cronk's Patent, Steel Covered.....	60¢10
Duplex (Wood Track).....	60¢10
Economy.....	60¢10
Hamilton Wrought Steel Track.....	55¢
Interstate.....	60¢10
Kidder's.....	60¢10
Lane's New Standard.....	50¢50
Lane's Parlor.....	40¢40
Lane's Standard.....	50¢50
Lundy, Steel Parlor.....	50¢
Magie.....	45¢10
Matchless.....	60¢10
Moody.....	45¢
Moore's Baggage Car Door.....	33¢42
Moore's Elevator.....	33¢42
Moore's Railroad.....	33¢42
Nickel, Steel, Nos. 0, 25; 1, 2; 2, 2.5; 3, 3.5; 4, 4.5.....	4.50

**Orleans Steel.....**

Paragon Nos. 5, 5 1/2, 7 and 8.....	20¢10
Pendulum, Payson's.....	40¢40
Perfection.....	60¢10
Richards.....	30¢30
Samson Steel Anti-Friction.....	40¢40
Star.....	40¢40
Stearns' Anti-Friction.....	20¢10
Stearns' Challenge.....	25¢10
Sterling.....	50¢10
Terry's Ideal.....	50¢10
Terry's Modern.....	50¢10
Terry's Shield.....	50¢10
Terry's Solid.....	50¢10
Terry's Wrought Single Strap.....	50¢10
Victor, No. 1, 1.50; No. 2, 1.50; No. 3, 1.50.....	1.50
Warner's Pat.....	20¢10
Wild West.....	45¢10
Zenith for Wood Track.....	55¢

**Harness Snaps—See Snaps.****Hatchets—**

American Axe and Tool Co.....	
Blood's.....	40 & 10
Hunt's.....	50
Hurd's.....	40 & 10
Mann's.....	50
Underhill's.....	50
C. Hammond & Son.....	50 & 50
Fayette R. Plumb.....	10
Collins.....	10
Buffalo Hammer Co.....	50 & 50
P. B. & W. Co.....	10
Sargent's & Co.....	10
O. Hulte, Lohr & Co.....	10
Ten Eyck Edge Tool Co.....	10

**Hay and Straw Knives**

See Knives.

**Hinges—****Blind Hinges—**

Clark's.....	75¢10
Nos. 1, 3, 5, 1868, Old Pattern.....	75¢10
Nos. 1 and 3, Tip Pattern.....	75¢10
No. 50 Buffalo Noiseless.....	40, 60 and 65
Buffalo Reversible, Nos. 3, 2, 1 1/2, 1 and 0.....	75¢10
No. 1 Cottage, for wood only.....	80¢10
No. 1 Diamond, for wood only.....	80¢10
Dixie L. & P., Nos. 3, 2 1/2, 2 1/4, 1, 0, 00, 4 and 5.....	75¢10
No. 25 Empire Reversible.....	75¢10
Lull & Porter, Nos. 3, 2 1/2, 2 1/4, 1, 0, 00, 4 and 5.....	75¢10
Mortise Gravity, Nos. 2, 4, 4 1/2, 8, 9 and 10.....	50¢
Huffer.....	50¢10
Parker.....	75¢10
North's Automatic Blind Fixtures, No. 1, for Wood, \$9.00; No. 3, for Brick.....	1.10
Reading's Gravity.....	75¢10
Sargent's Nos. 1, 3, 5, 11, 12, 13.....	75¢10

Shepard's.....	
Acme, Lull & Porter, Nos. 3, 2 1/2, 2 1/4, 1, 0, 00, 4 and 5.....	75¢10
Buffalo Gravity Locking, Nos. 1, 3 and 5.....	85¢
Champion Gravity Locking, No. 75.....	80¢10
Clark's or Shepard's 1868, Old Pattern, Nos. 1, 3 and 5.....	75¢10
Clark's or Shepard's Tip Pattern, Nos. 3 and 5.....	75¢10
Double Locking, Nos. 20 and 25.....	70¢52
Empire, Nos. 101 and 103.....	75¢52
Niagara Gravity Locking, Nos. 1, 3 and 5.....	80¢52
Noiseless, Nos. 50, 60, 65 and 55.....	75¢
O. S. Lull & Porter, Nos. 3, 2 1/2, 2 1/4, 1, 0, 00, 4 and 5.....	75¢10
Pioneer, Nos. 060, 45 and 51 1/2.....	75¢
Steamboat Gravity Locking No. 10.....	80¢10

**Gate Hinges—**

Automatic.....	gr 12.50, 50¢
Clark's, Nos. 1, 2, 3.....	80¢10
Barker's Patent Checking.....	15¢
Barker's Double Acting.....	25¢
Bommer's Jappanned.....	30¢
Bommer's All other Kinds.....	30¢
Buckman's.....	15¢20
Champion.....	60¢
Chicago.....	30¢
Columbia.....	gr 10.00
Crown.....	20¢
Devore, No. 1.....	gr 13.00
Freeport.....	gr 12.00
Geer's Spring and Blank Butts.....	40¢
Gem.....	20¢
Ideal No. 3.....	gr 10.00
J. C. Covered, # gr 3.....	7.50
Knoxall.....	gr 12.00
New Idea No. 1.....	gr 10.00
New Idea No. 2.....	gr 13.00
New Idea Dbl. Acting.....	45¢
No. 10 Matchless.....	60¢
No. 25 Unbreakable.....	20¢
Reliable.....	60¢
Rex.....	gr 13.00
Royal.....	60¢
Samson.....	60¢75
Stearns' Noiseless Floor Hinge.....	gr 5.00
Surprise.....	gr 12.00
Union Mfg. Co.....	25¢
Union Spring Hinge Co's list.....	
March, 1888.....	20¢
Wiles, No. 1, # gr 16; No. 2, #13.....	13

**Spring Hinges—**

Acme.....	30¢
American.....	20¢
Barker's Patent Checking.....	15¢
Barker's Double Acting.....	25¢
Bommer's Jappanned.....	30¢
Bommer's All other Kinds.....	30¢
Buckman's.....	15¢20
Champion.....	60¢
Chicago.....	30¢
Columbia.....	gr 10.00
Crown.....	20¢
Devore, No. 1.....	gr 13.00
Freeport.....	gr 12.00
Geer's Spring and Blank Butts.....	40¢
Gem.....	20¢
Ideal No. 3.....	gr 10.00
J. C. Covered, # gr 3.....	7.50
Knoxall.....	gr 12.00
New Idea No. 1.....	gr 10.00
New Idea No. 2.....	gr 13.00
New Idea Dbl. Acting.....	45¢
No. 10 Matchless.....	60¢
No. 25 Unbreakable.....	20¢
Reliable.....	60¢
Rex.....	gr 13.00
Royal.....	60¢
Samson.....	60¢75
Stearns' Noiseless Floor Hinge.....	gr 5.00
Surprise.....	gr 12.00
Union Mfg. Co.....	25¢
Union Spring Hinge Co's list.....	
March, 1888.....	20¢
Wiles, No. 1, # gr 16; No. 2, #13.....	13

**Wrought Iron Hinges—**

Corrug'd Strap and T.....	60¢10
Strap and T. List May 22, 1894.....	60¢10
Plate Hinges, 8, 10 & 12 in., # B.....	50
"Providence" over 12 in. # B.....	50
Roll'd Blind Hinges, Nos. 32 and 34.....	50¢10
Roll'd Blind Hinges, Nos. 232 and 234.....	50¢10
Roll'd Plate.....	70¢10
Roll'd Raised.....	70¢10
Screw Hook and Eye.....	1/4 in., # B 75¢
1/2 in., # B 84¢	
3/4 in., # B 94¢	
1 in., # B 1.04	
Screw Hook and ( 6 to 12 in., # B.....	34¢
Strap.....	22 to 30 in., # B.....

**Hoes—**

Scovill and Oval Pattern.....	50¢10
D. & H. Scovill.....	20¢30
Grub.....	60¢10
Lane's Crescent, Planters' Pattern.....	45¢52
Lane's Razor Blade, Scovill Pat.....	30¢52

**Handled—**

Garden, Mortar, &c.....	70¢70
Planters' Cotton, &c.....	70¢70
Warren Hoe.....	60¢80

**Hog Rings and Ringers—**

See Rings and Ringers.....	
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**Holding Apparatus—**

See Machinery, Holding.....	
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**Hollow-Ware—**

See Ware, Hollow.....	
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**Holders—**

Bag.....	
Sensible Bag and Twine.....	50¢
Spring's Pat.....	gr 1.25, 1.50

**Bit—**

Angular.....	gr 24.00, 40¢45
Diagonal.....	gr 24.00, 40¢45
Extension.....	40¢40
Barber's, # doz.....	15.00
Ives, # doz.....	20.00

**File and Tool**

Bals Pat.....	gr 4.00, 25¢
Nicholson File Holders.....	70¢70

**Sash—**

Motley's Adj. Sash, Medium Size.....	gr 1.20, 40¢
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**Hooks—**

Cast Iron.....	
Bird Cage, Reading.....	60¢10
Bird Cage, Sargent's List.....	50¢10
Clothes Line, Sargent's List.....	50¢10

Ceiling, Sargent's list.....	50¢50
Clothes Line, Moore's.....	70¢
Clothes Line, Reading list.....	60¢10
Coat and Hat, Moore's.....	70¢
Coat and Hat, Reading.....	60¢10
Coat and Hat, Sargent's list.....	50¢50
Hammock, E. C. Stearns & Co., # doz.....	60¢
Harness, Reading list.....	55¢10

Wire.....	
Atlas, Coat and Hat.....	55¢
Belt.....	80¢15
Handy Hat and Coat.....	50¢10
Indestructible Coat and Hat.....	45¢45
Steady Ceiling Hooks.....	50¢10
Williamson's Bird Cage Hooks, list.....	40¢
Wire Coat and Hat, Gem, list April.....	40¢
1888.....	60¢10
Wire Coat and Hat, Miles, list April.....	50¢50
1888.....	60¢10
Wire Coat and Hat, Standard.....	60¢10
Bright Wire Goods—See Wire.....	

Wrought Iron.....	
Cotton Pat. (N. Y. Maillet and Handle Wks.).....	gr 1.25
Tassel and Picture, T. & S. Mfg. Co.....	30¢
Wrought Staples Hooks, &c.....	50¢

**Miscellaneous—**

Bush.....	55¢60
Fish Hooks, American.....	50¢
Grass, No. 2, \$2.00; No. 3, \$2.10; No. 4, \$2.25.....	2.25
Hooks and Eyes—Brass.....	60¢10
Hooks and Eyes—Malleable Iron.....	70¢70
Nolin's Grass.....	gr 25¢
Whiffletree—Patent.....	55¢
Bench Hooks—See Bench Stops.....	

**Horse Nails—See Nails, Horse****Horse Shoes—**

See Shoes, Horse.

**Hose, Rubber—**

Competition, Fair quality.....	75¢75
Competition, Low Grade.....	54¢
Extra.....	60¢10
Standard.....	70¢10
N. Y. B. & P. Co., Carbon.....	70¢
N. Y. B. & P. Co., Double Diamond.....	60¢10
N. Y. B. & P. Co., 1816 Para.....	40¢52
Cotton Garden, 1/2 in., coupled.....	7¢
Good Quality, # ft.....	84¢

**Muskers—**

Blair's Adjustable.....	gr 3.00
Blair's Adjustable Clipper.....	gr 7.00
Hubbard's Solid Steel.....	gr 4.50

**Indurated Fiber Ware—**

See Ware, Indurated Fiber.

**Irons. Curling—**

Nicol's Patent Curling Iron Heater.....	gr 1.00
Silver Tipped Grace Darling Curling Iron, # doz.....	1.75
No. 65.....	1.50
No. 66.....	1.50
No. 67, Mustache.....	1.25

**Sad—**

From 4 to 10, at factory.....	100¢
E. B. Sad Irons, # (at factory).....	2.25
Chinese Laundry (N.E. Butt Co.).....	2.25
Chinese Sad.....	3.50
Crown Improved.....	60¢10
Ideal Irons, No. 250, # set, 6¢; No. 251.....	60¢
Maahong's Troy Pol. Iron.....	25¢
Mrs. Potts' Sad Irons, per set.....	
No. 50.....	60¢
No. 55.....	60¢
No. 60.....	60¢
National Self-Heating.....	5.40
New England.....	5.40
Pottertown, # set, No. 45, 65¢; No. 40, 70¢.....	25.00
Saunders Iron.....	25.00
Self-Heating.....	gr 10.00
Self-Heating Tailors.....	gr 22.50
Sensible Sad Irons, per set.....	
Nos. 2.....	30
3.....	30
60.....	35
Sensible Tailors, Irons.....	35¢

**Soldering—**

**Plate**.....45%  
**Barnes's Right Latches**.....15%  
**R. & E. Mfg. Co., List Mar. 90, 1889**.....60%  
**Sargent & Co., List July, 1894**.....60%  
**Warner's Burglar Proof**.....\$3.00, 50%

**Elevator**.....88%  
**Moore's**.....

**Padlocks**.....  
**Wrought Iron Padlocks:**  
Brittan, Graham & Mathes, list Jan., 1894.....75%  
Mallory, Wheeler Co., list Jan. 1, 1894.....75%  
Norwich Lock Mfg. Co., list June 10, 1891.....50%  
Russell & Erwin Mfg. Co., list June 10, 1891.....50%  
Sargent & Co., list January 1, 1894.....75%  
William Wilcox Mfg. Co., list Jan. 1, 1894.....75%  
Ames Sword Co. up to No. 108 incl. 60%  
Ames Sword Co. above No. 108.....60%  
Barnes Mfg. Co.....40%  
Champion Padlocks.....40%  
A. E. Deltz.....40%  
Eagle.....40%  
Eureka, Eagle Lock Co.....40%  
E. T. Fraim's Keystone Scandinavian, 1010 line.....90%  
120 line.....90%  
109 line.....90%  
510 line.....70%  
225, 610 and 209 lines.....70%  
All other numbers.....70%  
Horseshoe.....\$2.00, 50%  
Hotchkiss.....30%  
Rock's.....30%  
Romer's Nos. 0 to 91.....30%  
Romer's Scandinavian, &c., Nos. 100 to 505.....90%  
Scandinavian.....90%  
Slaymaker, Barry & Co.....90%  
No. 1010 line.....90%  
No. 41 line.....60%  
No. 61 line.....60%  
No. 21 line.....70%  
No. 109 line.....90%  
Star.....60%  
Yale Lock Mfg. Co.'s.....net prices

**Sash, &c.**.....  
Attwell Mfg. Co.....25%  
Champion Safety list January, 1893.....70%  
Clark's No. 1, 10; No. 2, 38 gr.....35%  
Common Sense, Jap'd, Cop'd and Erized.....gr \$4.00  
Common Sense, Nickel Plated.....gr \$10.00  
Corbin's Daisy, list Feb. 15, 1886.....70%  
Davis Bronze, Barnes Mfg. Co.....60%  
Ferguson's.....35%  
Fish (Jeschke pat.), No. 100, gr.....50%  
No. 105, gr.....50%  
Giant, list Jan. 1892.....70%  
Hammond's Window Springs.....40%  
Huginin's New Sash Locks.....25%  
Huginin's Sash Balances.....25%  
Ives' Patent.....60%  
Kempshall's Gravity.....60%  
Kempshall's Model.....60%  
Monarch.....50%  
Payson's Perfect.....60%  
Reading.....60%  
Security.....70%  
Universal.....30%  
Victor.....60%  
Walker.....60%  
Wolcott's.....60%

**Lumber Tools**.....  
**Lustro**.....  
Four-ounce bottles.....\$1.75; 7 gross.....\$17.00

**Machines.**.....  
**Boring**.....  
Without  
Augers, Upright, Angular.  
Boss, Carpenters' 3.00  
Boss, Ship Blids' 3.85  
Douglas.....\$5.50 \$7.75.....50%  
Jennings.....6.50 6.75.....60%  
Millers Falls.....7.50.....25%  
Phillips' Patent  
with Auger.....7.00 7.50.....40%  
Snell's, Rice's Pat 5.50 6.75.....40%

**Plating**.....  
American, 5 in., \$3.00; 6 in., \$3.40; 7 in., \$4.50 each.....35%  
Combined Fluter and Nail.....\$1.50, 80%  
Crown, 4 1/2 in., \$3.50; 6 in., \$4.00; 8 in., \$5.50 each.....35%  
Crown Hand Fluter, No. 1, \$15.00; 2, \$12.50; 3, \$10.00; 4, \$8.25.....30%  
Crown Jewel, 6 in.....\$3.50 each, 85%  
Eagle, 3 1/2 inch Rolls, \$2.15.....\$5.50  
Eagle, 4 1/2 inch Rolls, \$2.35.....35%  
K. & X, 4 1/2 inch Rolls.....\$3.25 each, 85%  
K. & X, 6 inch Rolls.....\$3.60 each, 85%

**Holisting**.....  
Moore's Anti-Friction Differential Pulley Block.....20%  
Moore's Hand Hoist, with Lock Brake.....20%  
Moore's Rope Differential Pulley Block.....60%  
Marris & Beekley (Teal Patent).....80%  
See also Blocks.

**Washing**.....  
Fair and Square.....\$2.42, 20%  
Anthony Wayne, No. 1, \$42; No. 2, \$36; No. 3, \$42.....\$2.42, 20%  
Wayne American.....\$2.42, 20%  
Wetall.....\$2.42, 20%  
Western Star, No. 2, \$36 No. 3 \$39

**Mallets**.....  
B. & L. Block Co., Hickory & L. V. 30%  
Tibre Head, Stearns.....30%  
Hickory.....20%  
Jagnum Vite.....20%

**Mattocks**.....  
Standard list.....60%  
See also Blocks.

**Measures**.....  
standard Fibreware, No. 1, peck 7/8  
dosen, \$3.50; 1/4 peck, \$3.00

**Meat Cutters**.....  
See Cutters, Meat

**Menders**.....  
Harness.....\$1.75  
Hudson's Hose Menders, in set, \$2.00  
Hudson's Hose Bands.....\$1.25  
Milk Cans.....\$1.00

**Mills**.....  
**Coffee**.....  
Box and Side, list Jan. 1, 1888.....\$1.00  
Net prices are often made which are lower than above discount.  
American, Enterprise Mfg. Co., list Jan. 17, 1893.....20%  
National list, Jan. 1, 1894.....30%  
Swift, Lane Bros.....30%  
Waddell's New Box Mills, Ideal Brand, New List.....\$1.00

**Mining Knives**.....  
See Knives, Mining.  
**Molasses Cates**.....  
See Gates, Molasses.  
**Money Drawers**.....  
See Drawers, Money.

**Mowers, Lawn**.....  
Highest 10 in. 12 in. 14 in.  
grade, \$4.00 to \$5.25 \$4.50 to \$6.00 \$5.00 to \$6.75  
Good \$3.00 \$3.50 \$4.00  
Cheap.....2.25 2.50 2.75

**Muzzles**.....  
Safety.....\$2.00, 25%

**Nails**.....  
Cut and Wire. See Trade Report.  
Wire Nails, Papered.  
Association list, May 1, '92.....\$5.10 to \$5.50  
Hungarian, Finishing, Upholsterers', &c. See Tacks.

**Horse**.....  
Nos. 6 7 8 9 10  
A. C.....25 25 25 25 25  
American.....9% 9% 9% 9% 9%  
Ausable.....25 25 25 25 25  
Capewell.....10% 10% 10% 10% 10%  
C. B. K.....25 25 25 25 25  
Champion.....25 25 25 25 25  
Champlain.....25 25 25 25 25  
Clinton, Fin.....10% 10% 10% 10% 10%  
Empire Bronzed.....10% 10% 10% 10% 10%  
Essex.....25 25 25 25 25  
Lyra.....9% 9% 9% 9% 9%  
Maud S.....25 25 25 25 25  
Northwest'n.....25 25 25 25 25  
Putnam.....25 25 25 25 25  
Standard.....25 25 25 25 25  
Vulcan.....25 25 25 25 25  
Western.....25 25 25 25 25

**Picture**.....  
Brass Head, Combination list.....50%  
Brass Head, Sargent's list.....60%  
Porcelain Head, Combination list.....40%  
Porcelain Head, Sargent's list.....50%  
Niles' Patent.....40%

**Nail Pullers**.....  
See Pullers, Nail.  
**Nail Sets**.....  
See Sets, Nail.  
**Nippers**.....  
See Pliers and Nippers.  
**Nut Crackers**.....  
See Crackers, Nut.  
**Nuts**.....  
List Dec. 18, 1889.  
Square, Hex.  
Cold Punched.....5.00 5.10 off list  
Hot Pressed.....5.80 6.00 off list  
In packages of 100 lb, add 1-10%  
net; in packages less than 100 lb, add 1/2%  
b, net.

**Oakum**.....  
Best or Government.....\$1.00  
Navy.....\$1.00  
U. S. Navy.....\$1.00

**Oil Tanks**.....  
See Tanks, Oil.  
**Oilers**.....  
Brass and Copper.....50%  
Zinc and Tin.....70%  
Broughton's Brass.....50%  
Broughton's Zinc.....80%  
Malleable, Hammers' Improved, No. 1, \$3.40; No. 2, \$4.00; No. 3, \$4.40.....10%  
Malleable, Hammers' Old Pattern, same list.....50%  
Olmead's Brass and Copper.....50%  
Olmead's Tin and Zinc.....80%  
Prior's Pat. or "Paragon" Brass.....60%  
Prior's Pat. or "Paragon" Zinc.....70%  
Steel, Draper & Williams.....50%  
Wilmot & Hobbs Mfg. Co., Steel Anti Rust.....60%

**Openers, Can**.....  
American.....\$1.75 to \$2.00  
Champion.....\$2.00  
Domestic.....\$2.00  
Duplex.....\$2.50, 15%  
Eureka.....\$2.50, 15%  
Excelator, No. 1, \$2.50; No. 2, \$1.50.....40%  
French, No. 4.....\$2.25, 55%  
Iron Handle, No. 5.....\$2.00, 45%  
Lyman's.....\$3.75, 20%  
Messenger's Comet.....\$3.00, 25%  
Moore's.....70%  
Sardine Sissors.....\$2.75 to \$3.00  
Sprague, No. 1, 55¢; 2, 60¢; 3, 65¢  
Streeter's.....\$2.75  
Sensible, Japanned, per doz.....60¢  
Sensible, Nickel, per doz.....75¢  
Surprise, per doz.....25¢  
New Sprague, Metallic H'dle, per doz.....60¢  
New Sprague, Wood H'dle, per doz.....60¢  
Universal.....\$2.00  
World's Best.....\$2.00, 10%  
No. 2, \$2.40; No. 3, \$3.00.....50%

**Packing, Steam**.....  
**Rubber**.....  
Standard, fair quality.....70%  
Interior quality.....75%  
Extra.....80%  
Jenkins' Standard.....\$2.50 to \$2.75  
N. Y. B. & P. Co., Double Diamond.....40%  
N. Y. B. & P. Co., Salamander.....45%  
N. Y. B. & P. Co., Carbon.....70%  
**Miscellaneous**.....  
American Packing.....\$1.00 to \$1.25  
Cotton Packing.....\$1.00 to \$1.25  
Italian Packing.....\$1.00 to \$1.25  
Jute.....\$1.00 to \$1.25  
Russia Packing.....\$1.00 to \$1.25

**Pails**.....  
S. S. & Co., 18 qt., \$7.00; 20 qt., \$7.25  
\$ doz.....5%

**Galvanized Pails**.....  
Light Heavy.  
10 Quart.....\$2.00 to \$2.25 \$2.25 to \$2.50  
12 Quart.....2.25 to 2.50 2.50 to 2.75  
14 Quart.....2.50 to 2.75 2.75 to 3.00

**Galvanized Buckets**.....  
Fire Well.  
10 Quart.....\$2.50 to \$2.75 \$2.75 to \$3.00  
12 Quart.....2.75 to 3.00 3.00 to 3.25  
14 Quart.....3.00 to 3.25 3.25 to 3.50

**Indurated Fiber Ware**.....  
Fire Pails, deep.....\$2.50 to \$3.00  
Fire Pails, round bottom.....\$2.50 to \$3.00  
Milk, 14 qt.....\$2.50 to \$3.00  
Stable, 14 qt.....\$2.50 to \$3.00  
Star Pails, 12 qt.....\$2.50 to \$3.00

**Standard Fiber Ware**.....  
Buggy Pails.....\$3.00  
Chamber Pails, 14 qt.....4.00  
Dairy Pails, 14 qt.....3.75  
Fire Pails, No. 1, 12 qt.....3.75  
Fire Pails, No. 2, 14 qt.....4.00  
Horse.....4.00  
Slop Jars (bal. trap).....7.50  
Sugar Pails.....5.00  
Water Pails, 12 qt.....3.15

**Pans**.....  
**Dripping**.....  
Large sizes.....\$1.50  
Small sizes.....\$1.50  
Silver & Co. (Covered).....40%

**Fry**.....  
Standard List:  
No. 1.....\$3.00  
No. 2.....\$3.75  
No. 3.....\$4.25  
No. 4.....\$4.75  
No. 5.....\$5.25  
No. 6.....\$5.75  
No. 7.....\$6.25  
No. 8.....\$6.75  
No. 9.....\$7.25  
No. 10.....\$7.75  
No. 11.....\$8.25  
No. 12.....\$8.75  
No. 13.....\$9.25  
No. 14.....\$9.75  
No. 15.....\$10.25  
No. 16.....\$10.75  
No. 17.....\$11.25  
No. 18.....\$11.75  
No. 19.....\$12.25  
No. 20.....\$12.75  
No. 21.....\$13.25  
No. 22.....\$13.75  
No. 23.....\$14.25  
No. 24.....\$14.75  
No. 25.....\$15.25  
No. 26.....\$15.75  
No. 27.....\$16.25  
No. 28.....\$16.75  
No. 29.....\$17.25  
No. 30.....\$17.75  
No. 31.....\$18.25  
No. 32.....\$18.75  
No. 33.....\$19.25  
No. 34.....\$19.75  
No. 35.....\$20.25  
No. 36.....\$20.75  
No. 37.....\$21.25  
No. 38.....\$21.75  
No. 39.....\$22.25  
No. 40.....\$22.75  
No. 41.....\$23.25  
No. 42.....\$23.75  
No. 43.....\$24.25  
No. 44.....\$24.75  
No. 45.....\$25.25  
No. 46.....\$25.75  
No. 47.....\$26.25  
No. 48.....\$26.75  
No. 49.....\$27.25  
No. 50.....\$27.75  
No. 51.....\$28.25  
No. 52.....\$28.75  
No. 53.....\$29.25  
No. 54.....\$29.75  
No. 55.....\$30.25  
No. 56.....\$30.75  
No. 57.....\$31.25  
No. 58.....\$31.75  
No. 59.....\$32.25  
No. 60.....\$32.75  
No. 61.....\$33.25  
No. 62.....\$33.75  
No. 63.....\$34.25  
No. 64.....\$34.75  
No. 65.....\$35.25  
No. 66.....\$35.75  
No. 67.....\$36.25  
No. 68.....\$36.75  
No. 69.....\$37.25  
No. 70.....\$37.75  
No. 71.....\$38.25  
No. 72.....\$38.75  
No. 73.....\$39.25  
No. 74.....\$39.75  
No. 75.....\$40.25  
No. 76.....\$40.75  
No. 77.....\$41.25  
No. 78.....\$41.75  
No. 79.....\$42.25  
No. 80.....\$42.75  
No. 81.....\$43.25  
No. 82.....\$43.75  
No. 83.....\$44.25  
No. 84.....\$44.75  
No. 85.....\$45.25  
No. 86.....\$45.75  
No. 87.....\$46.25  
No. 88.....\$46.75  
No. 89.....\$47.25  
No. 90.....\$47.75  
No. 91.....\$48.25  
No. 92.....\$48.75  
No. 93.....\$49.25  
No. 94.....\$49.75  
No. 95.....\$50.25  
No. 96.....\$50.75  
No. 97.....\$51.25  
No. 98.....\$51.75  
No. 99.....\$52.25  
No. 100.....\$52.75

**Dust**.....  
Steel Edge, No. 1.....\$1.75

**Roasting and Baking**.....  
Columbian, S. S. & Co., Nos. 10, \$2; 20, \$2.25; 30, \$2.50 each.....60%

**Paper and Cloth**.....  
**Sand and Emery**.....  
List April 19, 1886.....50%  
Sibley's Emery and Crocus Cloth.....30%

**Parers**.....  
**Apple**.....  
Advance.....\$2.45  
Baldwin.....4.75  
Bonanza.....5.00  
Daisy.....5.50  
Danvers.....7.50  
Eclipse.....4.00  
Eureka, 1888.....each 16.00  
Family Bay State.....do 12.00  
Favorite.....do 5.00  
Gold Medal.....do 5.00  
Ideal.....do 4.00  
Improve Bay State.....do 27.00  
Little Star.....do 4.00  
Monarch.....do 13.50  
New Lightning.....do 5.50  
Oriole.....do 4.00  
Penn.....do 3.00  
Perfection.....do 4.00  
Reading.....do 3.75  
Reading 78.....do 8.75  
Rocking Table.....do 5.50  
Turn Table.....do 13.50  
Victor.....do 4.00  
Waverly.....do 4.00  
White Mountain.....do 4.00

**Potato**.....  
Antrim Combination.....\$2.50  
Sarotoga.....\$2.50  
White Mountain.....\$2.50

**Pencils, Soapstone**.....  
See Crayons.  
**Pickers, Fruit**.....  
Prize Fruit Pickers.....50%

**Picks**.....  
Railroad or Adze Eye, 5 to 6, \$12.00; 6 to 7, \$18.00.....60%  
Picture Nails.....  
See Nails, Picture.  
**Pinking Irons**.....  
See Irons, Pinking.

**Pins**.....  
**Bow**.....  
Humason, Beckley & Co.'s.....70%  
Pick, Stow & W. Co.....60%  
Sargent & Co., \$17 and \$18.....60%

**Escutcheon**.....  
Brass.....70%  
Iron, list Nov. 11, 1885.....75%

**Pipe, Wrought Iron**.....  
List April 13, 1893.  
1 1/2 and under, Plain.....57%  
1 1/2 and under, Galv.....50%  
1 1/2 and over, Plain.....67%  
1 1/2 and over, Galv.....57%  
Boiler Tubes, list Oct. 24, 1892.....65%  
Casing, list Nov. 16, 1892.....52%  
Cold Drawn Seamless Steel Tubing.....50%  
Inserted Joints Casing, list Nov. 16, 1892.....47%  
Steel Boiler Tubes.....27%

**Planes and Plane Irons**.....  
**Wood Planes**.....  
Molding.....50%  
Bench.....55%  
Bench Second quality.....60%  
Bailey's (Stanley R. & L. Co.).....60%

**Iron Planes**.....  
Bailey's (Stanley R. & L. Co.).....50%  
Birmingham Plane Co.....60%  
Chapin's Iron Planes.....60%  
Davy's Iron Planes.....60%  
Gage Tool Co.'s Self Setting.....55%  
Miscellaneous Planes (Stanley R. & L. Co.).....25%  
Sargent's.....8%  
Standard Tool Co.....50%  
Steers' Iron Planes.....50%

**Plane Irons**.....  
Auburn Thistle.....30%  
Buck Bros.....\$5.00 to \$5.25  
Choban's.....\$5.00 to \$5.25  
Sandusky.....\$5.00 to \$5.25  
Stanley R. & L. Co.....50%  
L. & J. White.....25%

**Plates**.....  
Felloe.....\$1.00 to \$1.25

**Pliers and Nippers**.....  
Button's Patent.....60%  
Carew's Pat. Wire Cutters.....20%  
Cronk's 8 in., \$15.00; 10 in.....\$20%  
Cronk's Button Pattern.....60%  
Cronk's Carrier Pliers.....60%  
Eureka Pliers and Nippers.....40%  
Gas Pliers.....60%  
Gas Pliers, Custer's Nickel Plated.....60%  
Hall's Nippers, No. 2, 5 in., \$13.50; No. 4, 7 in., \$21.00.....40%  
Bull's Pliers.....60%  
Hunsdon & Beekley Mfg. Co.....50%  
Lindsay's Giant, No. 55, 5 in., \$12.00; No. 56, 5 in., \$12.00.....30%  
Morrill's Parallel.....\$12.00  
P. S. & W. Cast Steel.....50%  
P. S. & W. Timmers' Cutting Nippers.....10%  
Russell's Parallel.....25%  
Waterbury Nip's, 5 in., \$7.50, 33%

**Plumbs and Levels**.....  
Regular List.....75%  
Cook's.....40%  
Davis Inclinoimeters.....10%  
Davis Iron Levels.....60%  
Diston's.....60%  
Pocket Levels.....70%  
Stanley's Duplex.....20%  
Stanley's Handy.....20%

**Poachers, Egg**.....  
Buffalo Steam Egg Poachers.....\$2.00  
No. 1, \$6.00; No. 2, \$9.00.....35%  
Silver & Co., 6-Ring, \$4.00; 10-Ring.....\$2.00

**Pokes Animal**.....  
Bishop's American.....\$2.00  
Bishop's I. X. L.....\$2.00  
Bishop's Steel Monarch.....\$2.00  
Bishop's Ohio.....\$2.00  
Bishop's Pioneer.....\$2.00  
Bolding.....\$2.00  
Buckeye Single State.....\$2.00  
Columbian Double State.....\$2.00  
Eagle Double State.....\$2.00  
Eagle Single State.....\$2.00  
Metallic Horse Pokes.....\$2.00

**Police Goods**.....  
Daley's Improved Handcuffs, 2 Hands, Polished, \$2.00; 3 Hands, Polished, \$2.50; 3 Hands, Nickel, \$3.00; 3 Hands, Polished, \$2.50; 3 Hands, Nickel, \$3.00  
J. P. Lovell's Police Goods.....25%  
Newhall Ship Chandlery Co., Handcuffs, \$15.00; \$20.00.....25%  
Tower's.....25%

**Polish**.....  
**Metal**.....  
Gaston's Silver Compound.....35%  
Frestoline.....30%  
Tantite Paste.....35%

**Toilet Mills**.....  
Paste, 4 lb tins.....\$14.40  
Paste, 1 lb tins.....\$3.60  
Liquid, 4 lb tins.....\$3.60  
Powder, 1 lb.....\$3.60  
Wynn's White Silk, 4 lb tins.....\$1.57

**Sto Paste**.....  
Black Eagle Benzol Paste, 5 and 10 lb cans.....12%  
Black Flag Bottles.....\$7.70  
Black Flag 5 and 10 lb pails.....\$8  
Black Jack Water Paste, 5 and 10 lb cans.....13%  
Bonnet's Liquid Stove Polish, \$2.00; 3 lb, \$2.50  
Bonnet's Paste Stove Polish, \$2.00; 3 lb, \$2.50  
Boynton's Noon Day.....\$13.00  
Crown Paste.....\$7.20  
Crown Paste in 5 and 10 lb pails.....\$12  
Diamond O. K. Enamel.....\$19.00  
Diamond Rock Nickel Cleaner.....\$10.00  
Joseph Dixon's.....\$2.00, 10%  
Dixon's Plumbago.....\$2.00, 10%  
Fireside.....\$2.00  
Gem.....\$2.00, 10%  
Gold Medal.....\$2.00, 25%  
Japanese.....\$2.00  
Jet Black.....\$2.00  
Lustro.....\$2.00  
Nickel Plate Paste.....\$2.00  
Parlor Pride Stove Enamel, \$2.00  
Raven Liquid, 8 oz. bottles.....\$3.00

**Raven Liquid**.....  
Raven Liquid, 8 oz. bottles.....\$3.00  
Raven Paste in 5 lb. pails (cases of 6 pails), \$10.00  
Raven Water Polish, large boxes.....\$7.20  
Rising Sun.....\$5.50, 55%  
Ruby.....\$2.00, 75%  
Sun Paste No. 10.....\$2.00, 75%  
Sun Paste No. 5.....\$2.00, 75%  
Wynn's Black Silk, 5 lb pail.....\$1.50  
Wynn's Black Silk, 1 lb box, \$2.00; 5 lb box, \$12.00  
Wynn's Black Silk, 6 oz. box, \$2.00  
Wynn's Black Silk, 8 oz. lg., \$2.00  
Yates Liquid.....\$2.00, 10 gal  
Yates Standard Paste Polish, 10 lb cans, \$12; 5 lb cans, \$10

**Poppers, Corn**.....  
Round or Square,  
1 qt.....\$1.00; 2 qt, \$1.00; 3 qt, \$1.00  
2 qt.....\$1.50; 3 qt, \$1.50

**Post Hole and Tree Augers and Diggers**.....  
See Diggers, Post Hole, &c.

**Potato Parers**.....  
See Parers, Potato.

**Pots**.....  
**Glue**.....  
Enamelled.....40%  
Family, Howe's "Eureka".....45%  
Family, L. F. O.'s "Handy".....50%  
Tinned.....40%

**Powder**.....  
**In Canisters**.....  
Duck, 1 lb each.....45%  
Fine Sporting, 1 lb each.....75%  
Rifle, 1 lb each.....15%  
Rifle, 1 lb each.....25%

**In Kegs**.....  
Duck, 25 lb kegs.....\$2.25  
Duck, 25 lb kegs.....\$2.25  
Duck, 25 lb kegs.....\$2.25  
Rifle, 25 lb kegs.....\$1.10  
Rifle, 25 lb kegs.....\$1.10  
Rifle, 25 lb kegs.....\$1.10

**Presses**.....  
**Fruit and Jelly**.....  
Enterprise Mfg. Co.....\$25  
Jennie.....\$25  
Shepard's Queen City.....\$25  
Silver & Co.....\$25

**Pruning Hooks and Shears**.....  
See Shears

**Pullers Nail—**  
 Eclipse.....\$ doz. \$24.00 40%  
 Economy.....\$ doz. \$5.50 @ \$8.00  
 Ellrich.....\$ doz. \$10.00  
 Giant, No. 1.....\$ doz. \$18.00, 10% 10%  
 Giant, No. 2.....\$ doz. \$15.00, 10% 10%  
 Pelican.....\$ doz. \$9.00, 25% 10%  
 Scranton.....\$ doz. \$18.00, 55% @ 33% 10%

**Pulleys—**  
 Brass Screw.....70%  
 Hay Fork, "Anti-Friction," 5 in. solid, \$5.70.....50%  
 Hay Fork, "F" Common and Patent Bushed.....30%  
 Hay Fork, Moore's Anti-Friction 5 in. Wheel, \$ doz. \$12.00.....40%  
 Hay Fork, Reed's Self-Lubricating.....80%  
 Hay Fork, Solid Eye, \$4.00; Swivel, \$4.50.....60%  
 Hay Fork, Stearns Nos. 35 & 40, 50% 10%  
 Hay Fork, Stearns Nos. 15, 25, 55, 66, 60%  
 Hay Fork, Tarbox Pat. Iron.....20%  
 Hot House, Awning, &c.....60%  
 Japanned Clothes Line.....60%  
 Japanned Screw.....70%  
 Japanned Side.....70%  
 Moore's Ceiling, Anti-Friction.....40%  
 Moore's Dumb Waiter, Anti-Friction.....50%  
 Moore's Electric Light.....33%  
 Moore's Side, Anti-Friction.....50%  
 Sash (Auger Mortise).....60%  
 Common Sense.....60%  
 Empire.....60%  
 Acome.....60%  
 Ideal, Nos. 2, 4, 10 & 15.....40% less 1%  
 Star.....doz net.  
 Ideal, or IXL No. 60.....\$ doz. 22% net.  
 On bbl. lots extra 5%  
 Shade Rack.....45%  
 Sheppard's Niagara, N. 25, \$ doz 25% net  
 Tackle Blocks—See Blocks.

**Pumps—**  
 O'Brien, Best Makers.....60% 10% 10%  
 Pitcher Spout, Best Makers.....70% 10% 10%  
 Pitcher Spout, Cheaper Q'ds.....75% 10% 10%  
 Myers' Pumps, low list.....50%

**Punches—**  
 Avery's Revolving.....40%  
 Avery's Sawset and Punch—See Sawsets  
 Bemis & Call Co.'s Cast Steel Drive.....50%  
 Bemis & Call Co.'s Check.....55%  
 Bemis & Call Co.'s Spring.....60%  
 Bemis & Call Co.'s Springfield Socket.....65%  
 Niagara Hollow Punches.....20%  
 Niagara Solid Punches.....55%  
 Rice Hand Punches.....15%  
 Saddler's or Drive, good.....\$ doz. 60% 65%  
 Spring, good quality.....\$ doz. \$2.50 @ \$2.80  
 Spring, Leach's Pat.....\$ doz. 15%  
 Solid Tinnings, F. S. & W. Co.....55%  
 Tinnings' Hollow Punches, F. S. & W. Co.....20% 25%

**Rail—**  
 Barn Door Light, In. \$1.75 2 1/2 2 7/8  
 For 100 feet.....\$1.75 2 1/2 2 7/8  
 B.D. for N. E. Hangers.....  
 Small, Med. Large.  
 Per 100 feet.....\$2.00 2.50 3.00 Net  
 Carrier, double braced, Steel Rail.....  
 Foot.....\$1.75 2 1/2 2 7/8  
 Lundy Parlor Door, Plan Edge, \$1.75 2 1/2 2 7/8  
 Moody Steel Rail \$1.75 2 1/2 2 7/8  
 Moore's Steel Rail.....35%  
 Sliding Door, Bronzed Wrt Iron, Wrt. \$1.75 2 1/2 2 7/8  
 Sliding Door, Iron, Painted.....\$1.75 2 1/2 2 7/8  
 Sliding Door, Wrt Brass, \$1.75 2 1/2 2 7/8  
 Terry's Steel Rail.....\$1.75 2 1/2 2 7/8  
 Victor Track Rail, 7 1/2 foot.....50% 10%

**Rakes—**  
 Cast Steel, Association Q'ds.....70% 70% 55%  
 Cast Steel, Old Q'ds.....70% 70% 55%  
 Malleable, good.....70% 70% 55%  
 Malleable, low grade.....75%  
 Fort Madison Prize Bow Brace and Peerless.....65%  
 Fort Madison Steel Tooth Lawn Rake, \$5.00.....25%  
 Gibbs' Acme Lawn Rake.....\$ doz. \$4.75  
 Gibbs' Canton Lawn Rake.....\$ doz. \$3.90  
 Gibbs' Crown Lawn Rake, No. 1.....\$ doz. \$4.90; No. 2, \$3.50  
 Gibbs' Favorite Lawn Rake.....\$ doz. \$3.90  
 Gibbs' Hustler, No. 0.....\$ doz. \$4.25  
 Gibbs' Hustler, No. 1.....\$ doz. \$4.40  
 Onelda Lawn Rake.....\$ doz. \$5.00

**Razors—**  
 Campbell's Cutlery Co.....50%  
 Electric Cutlery Co.....Net prices  
 Galvanic.....\$ doz. \$15.00  
 Jordan's AAAI, new list.....Net prices  
 Jordan's Old Faithful, new list.....Net prices  
 J. R. Torrey Razor Co.....Net prices  
 Wostenholm and Butcher, \$10 to \$20.....10%

**Razor Straps—**  
 See Straps, Razor.  
**Reels—**  
 Clothes Line—  
 Stearns.....33% 40% 10%

**Fishing—**  
 Hendryx Aluminum, German Silver, Gold, Bronze, Silver Rubber, Popolo and Salmon, Single Action, Multiplying and Quadruple, all sizes.....25%  
 Hendryx Single Action Series.....102P and PN, 202P and PN, 102PR and PN, 202PR and PN, 504P and PN, 00304P and PN, 502 and 502N, 802 and 812N, 02084N, Competitor.....50%  
 Hendryx Multiplying and Quadruple Series.....3004N and PN, 4N and PN, 2804N, 2804P and PN, 002904PN, 0924 and 0924N, 5009N and PN.....40% 10%

**Registers—**  
 Moore's Bronze Finishes.....70%  
 Moore's Electroplated.....75%  
 Moore's Japanned.....75%  
 Moore's Solid Bronze.....65%  
 Moore's Stove Pipe.....35%

**Rings and Ringers—**  
 Bull Rings—  
 Hotchkiss' low list.....40%  
 Humason, Beckley & Co.'s.....75%  
 Peck, Stow & W. Co.'s.....\$ doz 60% 10%  
 Sargent's.....\$ doz 80% 10%

**Hog Rings and Ringers—**  
 Note.—The market on Hog Rings and Ringers is in a demoralized condition and prices are low and irregular, we therefore withdraw quotations for the present.

**Rivets and Burrs—**  
 Jopper.....\$ doz 60% 10%  
 Coppered Iron, Betina Brand.....50% 55%  
 Iron Norway, list Nov. 17 '87.....65% 10%  
 Second Quality.....70% 10% 55%

**Rivet Sets—See Sets.**  
**Roasting and Baking Pans—See Pans, Roasting and Baking.**

**Rods—**  
 Stair, Black Walnut.....\$ doz 40%  
 Stair, Brass.....25% 30%

**Rollers—**  
 Acome Moore's Anti-Friction.....55%  
 Barn Door, Sargent's list.....60% 10% 10%  
 Moore's Barn Door Stay.....50%  
 Union Barn Door Roller.....70%  
 Thomson Mfg. Co.'s Lawn Rollers.....80%

**Rope—**The following prices are f.o.b. New York or factory, and are shaded 1/4% @ 1/2% on large lots; terms, 1 1/2% for cash.  
 Manila, 7-16 in. diam. and larger.....\$ 8 @ 8 1/2%  
 Manila, 1/4 and 3/8 in. diam.....\$ 8 1/2 @ 8 1/2%  
 Manila, 1/2 and 3/4 in. diam.....\$ 8 1/2 @ 8 1/2%  
 Manila, Tanned Rope.....\$ 7 1/4 @ 7 1/4%  
 Manila, Hay Rope, Med'm.....\$ 8 @ 8 1/4%  
 Seal, 7-16 in. and larger.....\$ 6 @ 6 1/4%  
 Sisal.....\$ 6 1/4 @ 6 1/4%  
 Sisal, 1/4 and 5-16 in.....\$ 7 @ 7 1/4%  
 Sisal, Hay Rope.....\$ 6 1/4 @ 6 1/4%  
 Sisal, Tanned Rope.....\$ 6 1/4 @ 6 1/4%  
 Sisal, Medium Lath Yarn.....\$ 5 1/2 @ 5 1/2%  
 New Zealand.....7-16 in. and larger.....\$ 5 1/4 @ 5 1/4%  
 New Zealand.....3/4 inch.....\$ 5 1/4 @ 5 1/4%  
 New Zealand, Hay Rope.....\$ 5 1/4 @ 5 1/4%  
 New Zealand, Tar'd Rope.....\$ 4 3/4 @ 5%  
 Cotton Rope.....\$ 12 @ 15%  
 Jute Rope.....\$ 5 1/4 @ 6%

**Wire—**  
 List February, 1892. All kinds.....50%

**Rules—**  
 Boxwood.....\$ doz 10% 10% 10%  
 Starrett's Steel Rules and Straight Edges.....25% 10%

**Sad Irons—See Irons, Sad.**

**Sand and Emery Paper and Cloth—**  
 See Paper and Cloth.

**Sash Cord—See Cord, Sash.**

**Sash Locks—See Locks, Sash.**

**Sash Weights—**  
 See Weights, Sash.

**Sausage Stuffers or Fillers—**  
 See Stuffers or Fillers, Sausage.

**Saws—**  
 Note.—Extra 5% @ 10% often given.

Atkins' Circular.....\$ doz 50% 10%  
 Atkins' Band.....50% 10%  
 Atkins' Cross Cut, new list.....40%  
 Atkins' Muley Mill and Drag.....50% 10%  
 Atkins' Saw Set.....40%  
 Atkins' Wood Saws.....40%  
 Atkins' Hand Compass, &c.....40%  
 Diston's Circular.....\$ doz 45% 45%  
 Diston's Cross Cut, list Jan. 1, '93, 40% 10%  
 Diston's Hand.....25%  
 C. E. Jennings & Co.'s.....25%  
 Egan Circular and Mill.....45% 45%  
 Peace Cross Cuts, list Jan. 1, '93.....45% 10%  
 Peace Hand, Panel and Rip.....25% 25%  
 Richardson's Circular and Mill.....45% 45%  
 Richardson's Cuts, list Jan. 1, '93, 45% 10%  
 Richardson's Hand, &c.....25% 25%  
 Simonds' Circular Saws.....45% 45%  
 Simonds' Crescent Ground Cross Cut Saws.....30%  
 Simonds' One Man Cross Cuts.....40% 10%  
 Simonds' Gang, Mill, Muley and Drag Saws.....45% 45%  
 Wheeler, Madden & Clemson Mfg. Co. Cross Cuts, list Jan. 1, 1893.....45% 10%  
 Wheeler, Madden & Clemson Mfg. Co. Circular and Rip.....30% 10%  
 Woodrough & McFarlin.....45% 10%  
 Cross Cuts, list Jan. 1, 1893.....45% 10%  
 Hand Panel and Rip.....25% 10%

**Hack Saws—**  
 Eureka and Crescent.....25%  
 Griffin's Complete.....40% 10% 50%  
 Griffin's Hack Saw Blades.....40% 10% 50%  
 Star Hack Saws and Blades.....25%

**Scroll—**  
 Barnes' Builders' and Cab Makers' \$15.25  
 Barnes' Scroll Saw Blades.....25%  
 Lester, complete, \$10.00.....25%  
 Rogers, complete, \$4.00.....25%

**Saw Frames—**  
 See Frames, Saw.

**Saw Sets—See Sets, Saw.**

**Saw Tools—See Tools, Saw.**

**Scale Beams—**  
 See Beams, Scale.

**Scales—**  
 Chatillon's Eureka.....25%  
 Chatillon's Favorite.....40%  
 Chatillon's Grocers' Trip Scales.....50%  
 Family, Turnbills.....80% 30% 10%  
 Hatch, Counter, No. 171, good quality.....\$ doz \$17.00 @ \$18.00  
 Hatch Tea, No. 181.....\$ doz \$17.00 @ \$18.00  
 Reich Bros' Platform.....\$ doz \$18.00 @ \$19.00  
 Union Platform Plain.....\$2.00 @ \$2.10  
 Union Platform Striped.....\$2.15 @ \$2.25  
 Standard.....50%

**Scissors, Fluting—**  
 45%

**Scrapers—**  
 Adjustable Box Scraper (S. R. & L. Co.).....40% 10%  
 Box, 1 Handle.....\$ doz \$2.00  
 Box, 2 Handle.....\$ doz \$3.00 @ \$4.00  
 Defence Box and Ship.....20% 10%  
 Foot.....50% 10% 60%  
 Ship, Common.....\$ doz \$5.50  
 Ship, R. I. Tool Co.....10%

**Screen Window and Door Frames—See Frames.**

**Screw Drivers—**  
 See Drivers, Screw.

**Screws—**  
 Bench and Hand—

Bench, Iron.....\$ doz 55% 10% 10%  
 Bench, Wood, Beech.....\$ doz 25% 25%  
 Bench, Wood, Hickory.....20% 10%  
 Hand, Wood.....25% 10% 25% 10%  
 Hand, Grand Rapids, list.....35%  
 Coach, Lag and Hand-Rail—  
 Lag, Blunt Point, list Jan. 1, 1890.....80% 10% 80% 25%  
 Coach and Lag, Gimlet Point, list Jan. 1, 1890.....80% 10% 80% 20%  
 Hand Rail, Am. Screw Co.....50%  
 Hand Rail, H. & B. Mfg. Co. 70% 75% 55%  
 Hand Rail, Sargent's.....70% 10% 70% 10% 10%

**Jack Screws—**  
 Millers Falls, list.....50% 10% 10%  
 Millers Falls, Roller.....60% 10%  
 P. S. & W.....35%  
 Sargent.....70% 70% 10%  
 Stearns.....40% 10%

**Cork—**  
 Detroit Cork Screw Co.....35%  
 Humason & Beckley Mfg. Co. 40% 10% 50%  
 Williamson's.....38% 40% 25%  
 Williamson's Forged Worm, Apple-Scour, Head, Brass, \$ doz. \$5.00; Rosewood, \$5.50.....40%

**Machine—**  
 List August 1, 1894.  
 Flat Head Iron.....45%  
 Round Head Iron.....40%

**Wood—**  
 List January 1, 1891.  
 Flat Head Iron.....85%  
 Round Head Iron.....75%  
 Flat Head Brass.....85%  
 Round Head Brass.....80%  
 Flat Head Bronze.....80%  
 Round Head, Bronze.....75%  
 Rogers' Drive Screws.....87% 5%

**Scroll Saws—See Saws, Scroll.**

**Scythes—**  
 Grain.....40% 5% 40% 10%  
 Grass.....40% 10% 50%

**Scythe Snaths—**  
 See Snaths, Scythes.

**Sets—**  
 Alken's Sets, Awns and Tools, No. 20, \$ doz \$10.00.....60% 60% 55%  
 Common Brad Sets.....70% 10% 55%  
 No. 42, \$10.50; No. 43, \$12.50.....70% 10% 55%  
 Fray's Adj. Tool Folds, Nos. 1, \$12; 2, \$13; 3, \$12; 4, \$9; 5, \$7.....50%  
 Henry's Combination Haft.....\$ doz \$6.50  
 Millers Falls Adj. Tool Folds, No. 1, \$12; No. 4, \$12; No. 5, \$13.....25%  
 Stanley's Excelsior.....\$ doz \$5.00; No. 2, \$4.00; No. 3, \$5.50.....30% 10%

**Nail—**  
 Round.....\$ gr. \$3.25  
 Square.....\$ gr. \$4.00 @ \$4.25  
 Buck Bros.....27% 1/4%  
 Cannon's Diamond Point.....\$ gr. \$12, 30%

**Rivet—**  
 Regular list.....70%

**Saw—**  
 Atkins' Criterion.....\$ doz No. 1, \$6.00  
 Atkins' Genuine.....\$13.00, 50% 10% 80%  
 Atkins' Imitation.....\$ doz \$3.00 @ \$3.25  
 Atkins' Lever.....\$ doz No. 1, \$6.00  
 Atkins' Saw Set and Punch.....50%  
 Bemis & Call Co.'s Cross Cut.....30% 5%  
 Bemis & Call Co.'s Plate.....20%  
 Bemis & Call Spring Hammer.....30% 5%  
 Common Lever.....\$ doz \$2.00, 45% 50%  
 Crescent.....\$ doz \$3.00  
 Crockett (Keller), No. 1, \$15.00.....40% 10% 50%  
 Diston's Star.....25%  
 Hammer, Bemis & Call Co.'s new Pat. 45%  
 Hammer, Hotchkiss.....\$5.50, 10%  
 Hart's Pat. Lever.....20%  
 Kohler's Giant Royal.....\$ doz \$13.00  
 Kohler's Royal.....\$ doz \$13.00  
 Leach's, No. 0, \$8.00; No. 1, \$15.15 @ 20%  
 Leopold.....40% 10% 50%  
 Lloyd's Acme.....\$ doz \$15, 40% 10%  
 Morrill's No. 1, \$15.00.....40% 20%  
 Nos. 3 and 4, Cross Cut, \$23.00.....40% 20%  
 No. 5, Mill, \$31.00.....40% 20%  
 No. 12, \$15.50.....40% 20%  
 No. 11, \$16.00.....40% 20%  
 Nash's.....20% 10% 40%  
 Stillman's Genuine.....\$ doz \$5.00 @ 7.75, 40% 25%  
 Stillman's Pattern, Hand, \$ doz \$3.25  
 Cross Cut, \$6.50.....55% 55% 10%  
 Taintor Positive.....\$ doz \$18, 65%

**Sharpeners, Knife—**  
 Parkin's.....\$ doz \$2.00, 50%  
 Rosewood or Cocobola.....\$ doz \$2.00, 50%  
 Tante Mills.....\$ gr. \$14.40. 25% 33% 1/4%

**Shaves, Spoke—**  
 Iron.....45%  
 Rosewood or Cocobola.....\$ doz \$2.00, 50%  
 Bailey's (Stanley R. & L. Co.).....50% 10%  
 Cincinnati.....25% 10%  
 Goodell's \$ doz \$9.00.....25%  
 Stearns.....40% 10%

**Shears—**  
 Acme Cast Shears.....10% 10% 10% 10%  
 American (Cast) Iron.....60% 10% 80% 55%  
 Barnard's Lamp Trimmers.....\$ doz, \$3.75  
 Barnard, Solid Steel Blade, Jap'd.....75%  
 Barnard, Solid Steel Blade, Nicked.....65%  
 Cast Steel Trimmers.....  
 First quality.....\$ doz 80% 10% 80% 10% 10%  
 Second quality.....\$ doz 80% 10% 80% 10% 10%  
 Campbell Cutlery Co., Jap'd.....75%  
 Nickel Plated.....65%  
 Claus brand, Japanned.....70%  
 Claus brand, Nicked, same list.....60%  
 Clipper.....10% 10% 10% 10% 10%  
 Davenport Cutlery Co.....60% 40% 10%  
 Diamond Cast Shears.....10% 10% 10%  
 Galvanic 3/4 to 9 in., \$ doz \$1.00 \* inch  
 Hatch Cutlery Co. Solid Steel Forged.....60% 10% 10%  
 Heinisch's, list Dec. 1881.....80% 80% 10%  
 Heinisch's, 50% 10% 10% 10% 10%  
 Heinisch's Tailor's Shears.....35% 4%  
 Howe Bros. & Hulbert, Solid Forged Steel.....40%  
 Seymours, list Dec. 1881.....60% 10% 10% 10% 10%  
 Victor Cast Shears.....75% 10% 10% 10% 10%

**Tinners' Snips—**  
 Cast Handles, Laid with Steel.....40%  
 Niagara Snips and Shears.....20% 10%  
 W. R. Snips, Steel Blades, (1) 30% 10%

**Pruning Shears and Hooks**  
 Diston's Combined Pruning Hook and Saw.....\$ doz \$18.00, 20% 10%  
 Diston's Pruning Hook, \$ doz. \$20, 10%  
 Dunlap's Saw and Chisel, \$ doz \$8.50, 80%  
 Henry's Pruning Shears, \$ doz. \$4.00, 60%  
 Henry's Tree Pruner.....\$ doz 60% 20%  
 E. S. Lee & Co.'s Pruning Tools.....\$ doz 60% 10% 10%  
 Levin Pruner No. 1, \$15.00 \$ doz. 40% 25%  
 Levin Pruner No. 2, \$21.00 \$ doz. 40% 25%  
 J. Mallinson & Co., No. 1, \$5.25; No. 2, \$7.25  
 Pruning Shears, Henry's Pat.....\$ doz 3.00 @ \$3.25  
 P. S. & W. Co.....\$2.50 @ \$3.00  
 Wheeler, M. & C. Co., Combination.....\$ doz \$12.00

**Tinners', &c.—**  
 Shears and Snips (P. S. & W.).....\$ doz 20% 25%  
 Snips, J. Mallinson & Co.....\$ doz 85% 1/4%

**Sheaves—**  
 Sliding Door  
 Corbin's list.....60% 10% 25%  
 M. W. Co., list July 1888.....50% 10% 60% 55%  
 Moore's Anti-Friction.....50%  
 Patent Roller.....60% 10% 25%  
 Patent Roller, Hatfield's.....75%  
 R. & E., list Dec. 18, 1885.....55% 20%  
 Russell's Anti-Friction, list Dec. 18, 1885.....60% 25%

**Sliding Shutter—**  
 Reading list.....60% 10% 10%  
 R. & E., list Dec. 18, 1885.....60% 10% 25%  
 Sargent's list.....70%

**Shells—**  
 Brass Shot Shells, Club, Rival, Climax.....65% 25%  
 Brass Shot Shells, 1st quality.....60% 25%  
 First quality 4, 8, 10 and 12 gauge.....25% 10% 25%  
 First quality Rival, Club and Climax brands, 14, 16 and 20 gauge (\$7.50 list).....20% 10% 25%  
 Prime.....40% 25%  
 Smokeless brand, 12, 10, 16 gauge.....85% 10% 25%  
 Star, Club, Rival and Climax Brand.....\$ doz 10% 25%  
 Trap brand, 12 and 10 gauge.....\$ doz 10% 25%  
**Shells, Loaded—**  
 Standard list, July 19, 1890.....40% 10% 10% 40% 10% 10% 10%  
 25 cash, 10 days.

**Ship Tools—**  
 L. & J. White.....20% 55%

**Shoes, Horse Mule, &c.**

**Horse—**  
 Burden's, Perkins', Phoenix, Standard, Diamond State, Brydens' and Crescent.....\$3.50 @ \$4.00  
 Brydens' Frog Pressure, at factory \$5.00

**Mule—**  
 Add \$1 keg to above prices.

**Ox Wrought—**  
 Ton lots.....\$ m 90  
 1000 lb lots.....\$ m 90  
 500 lb lots.....\$ m 10%

**Sho—**  
 July 27. Small lots.  
 Drop, up to 4-6 bag.....\$1 1/2  
 Drop, up to 6-8 bag.....30  
 Drop, B and larger, 25-b bag.....1.40  
 Drop, B and larger, 5-b bag......85  
 Bag and Chilled, 25-b bag.....1.40  
 Bag and Chilled, 5-b bag......35  
 Buck and Chilled, 5-b bag.....1.75  
 Dust Shot, 25-b bag......40  
 Dust Shot 5-b bag......40  
 In ton lots a bag, 6 bags and 2 bags for cash.

**Shovels and Spades—**  
 Ames' Shovels, Spades, &c., list Nov. 1, 1885 (Except Nos. named below).....20%  
 The following Nos. are subject to a discount of 27 1/2%: Nos. 548 to 572; 838 to 880; and Nos. 1004, 1009, 1014, 1019, 1024, 1027 and 1029.  
 Griffith's Black Iron.....60% 10%  
 Griffith's C. S.....60% 60% 55%  
 Griffith's Solid C. S. R. R. Goods.....20%  
 Hubbard & Co., Antrim list.....25%  
 Hubbard & Co.'s Chisholm Pattern.....25% 55%

Hussey, Blinn & Co.....\$15 @ 25%  
 H. M. Myers Co.....30%  
 Lehigh Mfg. Co.....60% 10%  
 St. Loui. Shovel Co.....20% 20% 75%  
 Payne Pettibone & Son.....35% 45%  
 Remington's (Lowman's) Pat. 40% 10% 50%  
 Lowland's Steel Iron.....60% 10% 10% 55%  
 Rowland's Steel.....60% 50% 60% 10%  
 Terre Haute Shovel & Tool Co.....25%

**Shovels and Tongues—**  
 Brass Head.....60% 10% 10%  
 Iron Head.....60% 10% 10% 55%

**Sieves and Sifters—**  
 A. & W. Sifters.....\$ gr \$15.00  
 Buffalo Metallic, S. S. & Co. 50% 25% 20%  
 Electric Light.....\$ doz \$1.50; \$ gr \$15.00  
 Hunter's Genuine.....\$ doz \$1.75; \$ gr \$15.50  
 Hunter's Imitation.....\$ doz \$1.75; \$ gr \$15.00  
 Mann's Tin Rim.....\$ doz 50% 25%  
 Shaker (Barber's Pat.) Flour Sifter.....\$ gr \$21.00

**Sieves, Wooden Rim**  
 Iron Plated  
 Mesh 18, Nested, \$ doz.....\$0.80 1.00  
 Mesh 20, Nested, \$ doz......95 1.10  
 Mesh 24, Nested, \$ doz.....1.15 1.35

**Sinks Cast Iron—**  
 Standard list.....65% 10% 70%

**Wrought Steel—**  
 Columbus, Galvanised and Enamelled.....50% 10%  
 Columbus Painted.....30% 10%  
 New Era, Painted.....50% 55%  
 New Era Galvanised and Enamelled.....70% 55%

**Skels, Thimble—**  
 Western list.....75% 50% 75% 10%  
 Coldbrookdale Iron Co.....60%  
 Columbus Wrt Steel, Special net prices  
 Seneca Falls Pattern.....75%  
 Utica P. S. T. Skels.....60%  
 Utica Turned and Fitted.....35%

**Slates—**  
 Season, by case.....50% 50% 10%  
 Large lots.....50% 10% 10% 10%

**Slaw Cutters—See Cutters.**

**Sleds Hand—**  
 Tubular steel.....\$ doz \$24.00, 40% 25%  
 Lots of 6 doz. 50%

## Trimmers, Spoke

Humby's	
Ives', No. 1, \$15.00; No. 2, \$13.00	56%10
Stearns'	20%10
Douglas'	20%10
Cincinnati	25%
<b>Trowels—</b>	
Brade's Brick	25 to 25%15
Chapman & Maynard'	20 to 20%5
Diston's Brk and Plastering	25 to 25%10
Lothrop's Brick and Plastering	20%10 to 25%8%10
Peace's Plastering	25 to 25%42
Reed's Brick and Plastering	25 to 25%42
Worral's Brick and Plastering	25 to 25%42
Clarks' Angle Trowel, 7 gro, No. 1, 38¢	

**Torrall's Brick and Plastering**  
**Leaves' Angle Trowel. 8 grs. N**

Trucks, Warehouse, &c.,	
B. & L. Block Co.'s lat	40%
Barnes' Barrel Trucks	40%
Daisy Stove Trucks, Improved pattern.	
	% doz. \$18.00
Thompson Mfg. Co	40%
<b>Tubes, Boiler—</b>	
See Price	
<b>Twine—</b>	
Flax Twine	BC. B.
No. 9, 4 and 4 1/2 Balls.....	32% 39%
No. 12, 4 and 4 1/2 Balls.....	18% 26%
No. 18, 4 and 4 1/2 Balls.....	17% 26%
No. 24, 4 and 4 1/2 Balls.....	17% 26%
No. 30, 4 and 4 1/2 Balls.....	16% 19%
Chalk Line Cotton, 4 1/2 Balls	17%
Cotton Mops, 4 1/2 & 15 to doz., 15c @ 17c	
Cotton Wrapping, 5 Balls to p., 13c @ 14c	
2-Plv Hemo, 4 and 4 1/2 Balls (Spring	

Twine).....  
Ply Hemp 1 lb. Balls

3-Ply Hemp, 1 1/4" Balls.....	10¢
2, 3, 4 and 5 Ply Jute, 1/4" Balls.....	8¢
Mason Line, Linen, 1/4" Balls.....	54¢
No. 284 Mattress, 1/4" and 1/2" Balls, 52¢	54¢
Paper.....	10¢@11¢
Wool.....	5¢@8¢

**Vises—**

Solid Box.....	50¢@100¢
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**Parallel—**

Buckus and Union	40c
Bonney's	80c
Double Screw Leg	15c & 10c
Fisher & Norris Double Screw	15c & 10c
Hollands'	35c & 40c
Massey Quick Action	40c
Merrill's	15c & 20c
Miller's Falls	40c & 40-10c
Moore's	20c
Parker's	20c & 25c
Prentiss	20c & 25c
Sargent's	70 & 10c @ 70 & 10c & 10c
Simpson's Adjustable	40c
Stephens'	25c & 30c
Trenton	40c & 50c & 40c & 10c
Wilson's	55c
<b>Saw Fillers--</b>	
Bonney's No. 2 & 3.	\$15.00, \$10.00 & 5.00
Economy, # doz.	No. 110, \$10.00, 120
	50c & 10c & 10c
Frontier	2 doz \$17.50, 10c

leading.....

Stearns' Common, Nos. 0, 1, 2 & 3.....	20 & 10%
Stearns' Rubber Jaw, Nos. 1 & 3.....	33 & 34%
Wentworth.....	20 & 10%
<b>Miscellaneous—</b>	
Bauer's Pipe Vises.....	10%
Cincinnati.....	25 & 10%
Cowell Hand Vises.....	20%
Enterprise Pipe Vises..... each	\$3.00, 40%
Massey Combination Pipe Vise.....	40%
Phoenix Vises.....	33 & 34%
Phoenix Hand Vises.....	* doz \$3.60, 33 & 34%

U. M. C. & W. R. A.—B. E., 11 up.

U.M.C.&W.R.A.—B. E., 9&10..	82¢
U.M.C.&W.R.A.—B. E., 8.....	96¢
U.M.C.&W.R.A.—B. E., 7.....	\$1.10
U.M.C.&W.R.A.—P. E., 11 up.	1.15
U.M.C.&W.R.A.—P. E., 9&10..	1.50
U.M.C.&W.R.A.—P. E., 8.....	1.70
U.M.C.&W.R.A.—P. E., 7.....	1.80

Dis. 20&2%

Eley's B. E., 11 and larger....  
Eley's P. E., 12 to 20.....

**Wagon Boxes—**  
See *Boxes, Wagon.*  
**Wagon Jacks—**  
See *Jacks, Wagon.*  
**Ware, Hollow—**

Cast Iron, Hollow Ware--

Ground ... 60¢@10¢@60¢@10¢@10¢  
 Unground.....65¢@10¢@70¢@5¢  
 Gray Enameled Ware—  
 Stove.....50¢@50¢@5¢  
 Maslin Kettles.....60¢@10¢@60¢@10¢@10¢  
 Boilers and Saucepans... 40¢@5¢@40¢@10¢  
 White Enameled Ware—

Maslin Kettles..... .. 70  
Boilers and Sumpcans

**Enameled—**  
Agate and Granite Ware, list Jan. 1,  
1894 ..... 25  
Ironclad Enameled Ware, Old list....

### Kettles—

Galvanized Tea-Kettles—				
Inch.....	6	7	8	9
Each.....	55¢	60¢	65¢	75¢
Steel Hollow Ware.				
Avery Spiders and Griddles . . .	60¢	70¢		
Avery Kettles.....	60¢	10¢	10¢	70¢

Standard ribe  
Pe

	Plain.	Decorated
Cuspidors.....		\$7.50
Half-peck Measure.....	\$3.00	
Peck Measure.....	3.50	
Keelers, 11½ in.....		8.00
Spittoons, "Daisy," 8 in.	3.50	4.00
Wash-Basins, 10½ in.....	1.80	2.00

Wash-Basins, 12 in.....	8.00
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See also Bells

**Indurated Fiber.—**  
 Basins, Ringed,  $\frac{1}{2}$  doz., No. 2.....1.60  
 Butter Bowls 15, 17 and 19-inch (3  
 pieces),  $\frac{1}{2}$  nest.....\$1.50  
 Keelers Nested, Nos. 1, 2, 3 and 4 (4  
 pieces),  $\frac{1}{2}$  nest.....\$2.55

Liquid Measures, pt., qt., &  
funnell (4 pieces), & set...

Spittoons No. 2, $\frac{1}{2}$ doz.....	\$1.80
Washtubs, Nested, Nos. 0, 1, 2, and 3 (4 pieces), $\frac{1}{2}$ nest.....	\$5.75

See also Falls.

**Silver Plated, Hollow**  
4 mo. or 5¢ cash in 30 days.  
Meriden Britannia Co. .... 40¢  
Reed & Barton ..... 40¢  
Rogers & Brother ..... 40¢  
Simpson, Hall, Miller & Co. .... 40¢  
Hartford Silver Plate Co. .... 40¢  
William Rogers Mfg. Co. .... 40¢

**Washers—**  
Size hole. 5-16 1/4 3/4 5/16 1/2  
Washers. 5/4 4/4 3/4 2/4  
In lots less than 2000, \$ d. add 1/4, 5-  
boxes 1/2 to list.

**Whips**

American Whip Co. Length.	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8 ft.
X. L. Whalebone Driving.	\$18.00	\$20.00	\$22.00	\$24.00	\$27.00	\$30.00	\$33.00	\$36.00
Eureka, Two-thirds Whalebone.	15.00	16.50	18.00	20.00				
Bull Bone, Half-length Whalebone.								
American Standard.	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50
True Grip, Raw Hide Center.	6.00	6.00	6.50	7.00	7.50	8.00		
New Name, Stocked Java, Black.								
and Wine Colored.								
Americus, 93 Pen Whip.								
Gents' Light Driving No. 111.								
Gents' Light Driving No. 106.								
Hand-made Stocked Java No. 105.								
A large variety of cheaper grades.								
Team Whips.								
Toy Whips.								
Hardware Assortment, 10 American.								

**Wire and Wire Goods Iron**  
magnet.  
Br. & Ann. Nos. 0 to 18. 75¢ to 10¢  
Cop'd, Nos. 0 to 18. 75¢ to 10¢  
Galv., Nos. 0 to 18. 75¢ to 10¢  
Tin'd, Tin'd list, Nos. 0 to 18. 75¢ to 10¢  
Extra 50¢ to 10¢ often given and low net prices often made on large lots.

**Washer Cutters—**  
See Cutters, Washers.  
**Water Coolers—**  
See Coolers, Water.  
**Wedges—**  
Iron. 1/2 1/4 3/4 5/16 1/2  
Steel. 1/2 1/4 3/4 5/16 1/2  
**Weights Sash—**  
Ton lots at foundry, \$ ton, \$15.00 to \$16.00  
**Well Buckets Galvanized—**  
See Pails, Galvanized.  
**Wheels Well—**  
8 in., \$2.00; 10 in., \$2.50; 12 in., \$2.75

**Galvanized Fence** ..... 75¢ to 10¢  
**Galvanized An'aled & Tin'd on Spools** ..... 60¢ to 85¢  
**Main's Braces and Cop. on Spools** ..... 50¢ to 85¢  
**Steel Music Wire, 12 to 30, imported** ..... 60¢ to 70¢  
**Stubs' Steel Wire** ..... \$6.00 to 2.30¢  
**Tate's Spooled, Tin'd & Annealed** ..... 60¢ to 85¢  
**Tate's Spooled Cop. and Brass** ..... 50¢  
**Tinned Broom Wire, 18 to 21, \$ d.** ..... 45¢  
**Wire Cloth Line & Lines** .....  
**Wire Picture Cord, see Cord.**

**Bright Wire Goods—**  
Standard list ..... 90¢ to 90¢ to 15¢

**Wire Cloth and Netting—**  
Galvanized Wire Netting ..... 80¢ to 80¢ to 10¢ to 5¢  
Painted Screen Cloth \$ 100 ft \$1.45 to \$1.60

**Wire Barb—**  
See Trade Report.

**Wire Rope—See Rops, Wires.**

**Wrenches—**  
American Adjustable ..... 40¢ to 40¢ to 10¢  
Baxter's Adjustable "S" ..... 40¢ to 10¢ to 50¢  
Crosby's ..... 60¢ to 80¢ to 10¢  
Crosby's Genuine ..... 60¢ to 80¢ to 10¢  
Crosby's "Mechanics" ..... 50¢ to 10¢ to 8¢  
Girard Standard ..... 65¢ to 10¢ to 70¢  
Lamson & Sessions' Engineers' ..... 60¢ to 10¢  
Lamson & Sessions' Standard ..... 70¢ to 10¢  
Girard Agricultural ..... 75¢ to 10¢ to 10¢  
P. S. & W. Agricultural ..... 80¢ to 5¢  
W. & B. Diamond ..... 50¢ to 50¢ to 10¢  
Acme, Bright ..... 50¢ to 50¢ to 10¢

**Acme, Nickel** ..... 40¢ to 40¢ to 5¢  
**Alken's Pocket (Erigat)** ..... \$2.50 to \$2.60  
**Aligator** ..... 40¢ to 60¢ to 10¢  
**Always Ready** ..... 33¢ to 10¢ to 40¢ to 5¢

**Bemis & Call's:**  
Adjustable S. .... 35¢ to 5¢  
Brig's Pattern ..... 30¢ to 10¢  
Combination Black ..... 40¢ to 10¢  
Combination Bright ..... 40¢ to 10¢  
Cylinder or Gas Pipe ..... 15¢ to 5¢  
Extra Heavy ..... 45¢  
Merrick's Pattern ..... 45¢  
No. 8 Pipe Bright ..... 55¢  
Bit Wrench, Adj., Tatum's ..... \$ doz., \$2.25 35¢ to 10¢  
Boardman's ..... 30¢ to 30¢ to 5¢  
Cincinnati Brace Wrenches ..... 25¢ to 10¢  
Diamond Steel ..... 55¢ to 5¢  
Donohue's Engineer ..... 20¢ to 10¢  
Eagle ..... 50¢ to 10¢  
Hercules ..... 70¢ to 10¢ to 10¢  
Tatts Vise Wrench ..... 55¢ to 10¢  
The Favorite Pocket, \$ doz \$1.40 to 40¢ to 5¢  
Walker's ..... 55¢ to 5¢  
Webster's Pat. Combination ..... 25¢

**Wringers, Clothes—**  
In lots of less than one dozen.  
Am. Wringer Co.'s list July 2, 1894. 2% cash  
Colby Wringer Co., list May 1, 1894. 2% cash  
Lovell Mfg. Co., list July 2, 1892. 2% cash  
Peerless Mfg. Co., list Feb., 1892. 2% cash  
National Wringer & Mfg. Co., list June 1, 1893. 2% cash

**Wrought Goods—**  
Staples, Hooks, &c., list, March 17, 1893. 85¢ to 25¢ to 85¢ to 30¢

## Paints, Oils and Colors. Wholesale Prices.

### Animal and Vegetable Oils—

Linseed, City, raw, per gal.	54	@	55
Linseed, City, boiled.	57	@	58
Linseed, Western, raw.	53	@	54
Lard, City, Extra Winter.	55	@	56
Lard, City Prime.	53	@	54
Lard, City, Extra No. 1.	48	@	49
Lard, City, No. 1.	45	@	46
Lard, Western, prime.	52	@	53
Cotton-seed, Crude, prime.	48	@	49
Cotton-seed, Crude, off grades.	26	@	28
Cotton-seed, Summer Yellow, prime.	30	@	32
Cotton-seed, Summer Yellow, off grades.	30	@	32
Sperm, Crude.	60	@	62
Sperm, Natural Spring.	60	@	62
Sperm, Bleached Spring.	65	@	67
Sperm, Natural Winter.	65	@	67
Sperm, Bleached Winter.	70	@	72
Whale, Crude.	40	@	42
Whale, Bleached Winter.	45	@	47
Whale, Extra Bleached.	47	@	49
Sea Elephant, Bleached Winter.	28	@	30
Menhaden, Crude, Sound.	25	@	27
Menhaden, Crude, Southern.	25	@	27
Menhaden, Light Pressed.	30	@	31
Menhaden, Bleached Winter.	35	@	37
Menhaden, Extra Bleached.	37	@	39
Tallow, City, prime.	43	@	45
Tallow, Western, prime.	40	@	42
Cocunut, Ceylon.	54	@	56
Cocunut, Cochiti.	74	@	76
Cod, Domestic.	34	@	36
Cod, Foreign.	36	@	38
Red Elaine.	35	@	38
Red Saponified.	44	@	46
Bank.	28	@	30
Straits.	29	@	31
Olive, Italian, bbls.	65	@	68
Nestfoot, prime.	60	@	63
Palm, prime, Lagos.	54	@	56

**Mineral Oils—**  
Black, 29 gravity, 25 @ 30  
cold test. .... per gal 7 @ 7 1/2  
Black, 29 gravity, 15 cold test. .... 7 @ 8  
Black, 29 gravity, summer 5 1/4 @ 6 1/4

Cylinder light, altered. 12 @ 16  
Cylinders, dark, altered. 10 @ 13  
Paraffine, 23 1/2 to 24 gravity. 11 @ 12  
Paraffine, 25 gravity. 10 @ 11  
Paraffine, 28 gravity. 7 1/2 @ 8  
Paraffine, red. 9 1/4 @ 10 1/4

**Paints and Colors—**  
Barytes, Foreign, b ton. \$22.00 @ 24.00  
Barytes, Amer. floated. \$22.00 @ 23.00  
Barytes, Amer. No. 1. 18.00 @ 18.00  
Barytes, Amer. No. 2. 13.00 @ 15.00  
Barytes, Amer. No. 3. 11.00 @ 12.00  
Blue, Celestial. \$ d 6 @ 8  
Blue, Chinese. 40 @ 50  
Blue, Prussian. 25 @ 40  
Blue, Ultramarine. 25 @ 25  
Brown, Spanish. 1/4 @ 1  
Brown, Vandyke, Amer. 3 @ 3 1/4  
Brown, Vandyke, English. 6 @ 8  
Carmine, No. 40, in bulk. 2.00 @  
Carmine, No. 40, in boxes or barrels. 2.10 @  
Carmine, No. 40, in ounce bottles. 8.00 @  
Chalk, in bulk. \$ ton. 1.75 @ 2.00  
Chalk, in bbls. \$ 100 b. 33 @ 40  
China Clay, English. \$ ton. 13.00 @ 18.00  
Cobalt Oxide, prep'd. \$ ton. 9.00 @ 11.00  
Cobalt Oxide, black. lots 100 b. 1.90 @  
Cobalt Oxide, black. less 100 b. 1.90 @  
Green, Paris, in bulk. 23 @  
Green, Paris, 170 @ 175 b 23 1/2  
Green, Paris, small pack. 25 @ 29 1/2  
Rebates—3¢ @ on lots of 10,000 b or over; 2 1/2¢ @ on 4,000 to 10,000 b; 2¢ @ on 2,000 to 4,000 b; 1 1/2¢ @ on 1,000 to 2,000 b; 1¢ @ on 500 to 1,000 b purchased during the season.  
Green, Chrome, ordinary. 6 @ 12  
Green, Chrome, pure. 22 @ 25  
Lead, Eng., B.B. white. 7 @ 8  
Lead, Amn. White: Dry 4 1/4 @ 4 1/4  
In Oil. 5 1/4 @ 6 1/4  
Lead, White, in oil, 25 b tin pails, add to keg price. @ 1  
Lead, White, in oil, 12 1/2 b tin pails, add to keg price. @ 1  
Lead, White, in oil, 1 to 5 b assorted tins, add to keg price. @ 2 1/4

Lead, Red, bbls. and 1/2 bbls. 5 1/4 @ 5 1/4  
Lead, Red, kegs. 5 1/4 @ 6  
Litharge, kegs. 5 1/4 @ 5 1/4  
Litharge, bbls. and 1/2 bbls. 5 1/4 @ 6  
Ocher, Rochelle. 1.35 @ 1 1/4  
Ocher, French Washed. 1 1/4 @ 2 1/4  
Ocher, German Washed. 1 1/4 @ 3  
Ocher, American. 1 1/4 @ 1 1/4  
Orange Mineral, English. 7 1/4 @ 8  
Orange Mineral, French. 10 @ 10 1/2  
Orange Mineral, German. 7 1/4 @ 8  
Orange Mineral, American. 7 1/4 @ 8  
Red, Indian, English. 5 @ 15  
Red, Indian, American. 2 @ 5  
Red, Turkey. 2 @ 14  
Red, Tuscan. 7 @ 10  
Red, Venetian, American. \$ 100 b. .70 @ 1.00  
Red, Venetian, English. 1.10 @ 1.35  
Sienna, Italian, Burnt and Powder. \$ d 4 @ 5  
Sienna, Ital., Burnt Lumps. 1 1/4 @ 3 1/4  
Sienna, Ital., Raw, Powder. 4 1/4 @ 5 1/4  
Sienna, Ital., Raw, Lumps. 1 1/4 @ 3 1/4  
Sienna, American, Raw. 1 1/4 @ 1 1/4  
Sienna, American, Burnt and Powdered. \$ d 1 1/4 @ 1 1/4  
Talc, French. 1 1/4 @ 1 1/4  
Terra Alba, French. \$ 100 b. 65 @ 75  
Terra Alba, English. 65 @ 75  
Terra Alba, American No. 1. 65 @ 75  
Terra Alba, American No. 2. 45 @ 60  
Umber, Turkey, Burnt and Powdered. \$ d 2 1/4 @ 3 1/4  
Umber, Turkey, Raw and Powdered. 2 1/4 @ 3 1/4  
Umber, Turkey, R/w Lumps. 2 1/4 @ 3 1/4  
Umber, Turkey, Bnt. Amer. 1 1/4 @ 1 1/4  
Umber, Turkey, R/w Amer. 1 1/4 @ 1 1/4  
Yellow, Chrome. 11 @ 12  
Vermilion, American Lead. 43 @ 43  
Vermilion, Quicksilver, bags. 44 @  
Vermilion, Quicksilver sm'r pkgs. 52 @  
Vermilion, English Import. 55 @ 60  
Vermilion, Imitation, Eng. 60 @ 60  
Vermilion, Tricolor. 85 @ 95  
Vermilion, Chinese. 85 @ 100  
Whiting Common, \$ 100 b 40 @ 45  
Whiting Gliders. 50 @ 55  
Zinc, American, dry. \$ d 3 1/4 @ 3 1/4  
Zinc, French, Red Seal. 7 @ 7 1/2

Zinc, French, Green Seal. 8 1/4 @ 9  
Zinc, French, V. M. X. 7 @ 7  
Zinc, Antwerp, Red Seal. 6 @ 6 1/4  
Zinc, Antwerp, Green Seal. 6 1/4 @ 7 1/4  
Zinc, German, L. Z. O. 5 @ 5  
Zinc, V. M. in Poppy Oil, G. Seal, lots of 1 ton and over. 10 1/4 @  
lots less than one ton. 11 @  
Zinc, V. M. in Poppy Oil, Red Seal. @  
lots of 1 ton and over. 9 1/4 @  
lots of less than 1 ton. 10 1/4 @  
Discounts—French Zinc—Discounts to buyers of 10 bbl. lots of one or assorted grades, 1 1/2; 25 bbls. 2 1/2; 50 bbls. 4 1/2. No discount allowed on less than bbl. lots.

**Colors in Oil—**  
Black, Drop, Frankfurt. 25 @ 30  
Black, Drop, English. 12 @ 15  
Black, Drop, Domestic. 7 @ 10  
Black, Lamplack, Best. 20 @ 35  
Black, Lamplack, Common. 7 @ 13  
Black, Ivory. 8 @ 15  
Blue, Chinese. 35 @ 40  
Blue, Prussian. 20 @ 45  
Blue, Ultramarine. 12 @ 18  
Brown, Vandyke. 7 @ 12  
Green, Chrome. 8 @ 13  
Green, Paris. 16 @ 19 1/4  
Sienna, Raw. 7 @ 14  
Sienna, Burnt. 7 @ 14  
Umber, Raw. 7 @ 10  
Umber, Burnt. 7 @ 10

**Putty—**  
In barrels and 1/2 bbls. 0 1/4 @ 0 1/4  
In tubs. 0 1/4 @ 0 1/4  
In tin cans. 0 1/4 @ 0 1/4  
In bladders. 0 1/4 @ 0 1/4

**Spirits Turpentine**  
In regular bbls. 30 1/4 @  
In machine bbls. 31 @ 31 1/4

**Glue—**  
Low Grade. \$ d 7 @ 9  
Cabinet. 11 @ 14  
Medium White. 12 @ 14  
Extra White. 16 @ 20  
French. 10 @ 22  
English. 10 @ 15  
Irish. 10 @ 12 1/2

# THE IRON AGE.

The oldest paper in the world devoted to the interests of the Hardware, Iron and Metal Trades, and a standard authority on all matters relating to those branches of industry.

### RATES OF SUBSCRIPTION: INCLUDING POSTAGE.

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Monthly Edition FIRST THURSDAY of every month. 1.15 "

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AUGUST 15, 1894.

## IRON AND STEEL—

## Merchant Steel from Sto

### Soft Steel Sheets.

**Sheet Iron from Store—**

Russia, Planished, &c.

**Galvanized.**

**Foreign Steel from Store—**

## METALS—

### Tin Plates—

and Callend Grade IC 10  $\times$  14 Per

**Coke Plates—Bright—**

**Charcoal Plates—Terne—**

### Tin Boiler Plates—

20 = 20.1111 11

## Ingot—

### Sheet and Bolt—

..

Copper Wash Bowl Bottoms—  
 Tinned.....@ 11 34¢, 15 % @ 25 %

	Net.
Flinning sheets on one side, 10, 12 and 14 x 48, each..	.6¢
Flinning sheets on one side, 30 x 60, each..	25¢

**Planished Brass and Copper—**  
Not larger than 30 x 60.

2 oz..... 27¢ 8 D

**Seamless Brass Tubes—**

Copper Bronze and Gilding Tube, 3¢ @ lb additional.  
Braze Brass Tubing. (To No. 19 inclusive.)  
Brown & Sherrill gauge standard.

### Roll and Sheet Brass—

Common High Brass; Wider than and including	in. 2 10	in. 10 12	in. 12 14	in. 14 16	in. 16 18	in. 18 20	in. 20 22	in. 22 24
o No. 20, inclusive.....	.22	.23	.25	.27	.29	.31	.33	.36
os. 21, 22, 23 and 24.....	.22	.24	.26	.28	.30	.32	.34	.37
os. 25 and 26.....	.23	.24 <sup>1</sup> / <sub>2</sub>	.27	.29	.31	.33	.35	.38
os. 27 and 28.....	.23	.25	.28	.30	.32	.34	.36	.39

\* Special price not less than 80 cents.  
Discount from List 40 %.

List April 9, 1894.

Discount,  $\pm 0\%$ .  
Spring Wire,  $2\phi$   $\$$  in advance.

<b>Burrs—</b>			
Per lb.		Per lb.	
No. 5.....	49¢	No. 11.....	50¢
No. 6.....	49¢	No. 12.....	58¢
No. 7.....	49¢	No. 13.....	60¢
No. 8.....	50¢	No. 14.....	65¢
No. 9.....	52¢	No. 15.....	70¢
No. 10.....	54¢		

60 ¢ @ 5 ¢ discount.

**IRON BRONZE RODS.**  
*Drawn Rods for Bolts, Forgings, &c.*  
 ¼ to ¾ inches inclusive..... 17¢ # lb  
 Over ¾ to 5 inches inclusive..... 18¢ # lb  
*Piston Rods, Finished True, Smooth and Straight.*  
 ¼ to ¾ inches inclusive..... 18¢ # lb  
 Over ¾ to 5 inches inclusive..... 19¢ # lb

Duty: Pig, Bars and Plates, \$1.50 @ 100 lb.  
 Western Spelter..... 41¢  
 Bertha (pure)..... 8¢ @ 8½¢

**Zinc—**

600 lb casks.....5 1/4¢  
Per lb.....6¢

**Lead-**

Sheets, 2½¢ @ 10 lb.	
American Pig	3½¢ @ 4¢
Bar	4½¢
Pipe, subject to discount 20 %	5½¢
Line Lined Pipe, subject to discount 20 %	15¢
Black Tin Pipe, subject to discount 20 %	35¢
Sheet, subject to discount 20 %	6¼¢
Old Lead in exchange, 2½¢ @ 10 lb.	

No. 1 ..... 11 3/4¢ @ 12 1/4¢  
Prices of Solder Indicated by private brands vary  
according to composition.

Hallett's..... 79 lb 10

**Aluminum—**

Ing Ingots:		
Small lots	.....	\$ 65¢
100-lb lots	.....	\$ 63¢
Ton lots	.....	\$ 60¢
No. 1 Aluminum (guaranteed to be over 98% pure), in Ingots for remelting:		
Small lots	.....	\$ 63¢
100-lb lots	.....	\$ 60¢
Ton lots	.....	\$ 55¢
No. 2 grade (guaranteed to be over 94% pure Alumi- num), cast in ingots for remelting:		
Small lots	.....	\$ 60¢
100-lb lots	.....	\$ 55¢
Ton lots	.....	\$ 50¢

Heavy Copper.....	¢	7	¢
Light and Tinned Copper.....	¢	10	¢
Heavy Brass.....	¢	5	¢
Light Brass.....	¢	4	¢
Lead.....	¢	3	¢
Tea Lead.....	¢	29	¢
Zinc.....	¢	24	¢
No. 1 Pewter.....	¢	18	¢
No. 2 Pewter.....	¢	6	¢
Wrought Scrap Iron.....	¢	gross	ton \$8.00
Heavy Cast Scrap.....	¢	gross	ton 7.00
Stove Plate Scrap.....	¢	gross	ton 3.50
Burnt Iron.....	¢	gross	ton 2.50

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